Staff Report

Bay Area to Central Valley High-Speed Train (HST) Program Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)

June 2008

California High-Speed Rail Authority

Staff Report
for the
Bay Area to Central Valley
High-Speed Train (HST)
Program Environmental Impact
Report/ Environmental Impact
Statement (EIR/EIS)

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ACRONYMS AND ABBREVIATIONS

ac	acres
ACE	Altamont Commuter Express
Authority	California High-Speed Rail Authority
BART	Bay Area Rapid Transit District
BCDC	Bay Conservation and Development Commission
Business Plan	final business plan
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CRF	California Rail Foundation
CSPF	California State Parks Foundation
CWA	Clean Water Act
EIR/EIS	Environmental Impact Report/ Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GEA	Grassland Ecological Area
HST	High-Speed Train
ISTEA	Intermodal Surface Transportation Efficiency Act
JPB	Joint Powers Board
kph	kilometers per hour
LEDPA	least environmentally damaging practicable alternative
MMRP	mitigation monitoring and reporting plan
mph	miles per hour
MTC	Metropolitan Transportation Commission
NEPA	National Environmental Policy Act of 1969
NOI	Notice of Intent

NOP	Notice of Preparation
PCL	Planning and Conservation League
Program EIR/EIS	Bay Area to Central Valley HST Program Environmental Impact Report/ Environmental Impact Statement
RAFT	Regional Alliance for Transit
ROD	Record of Decision
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SamTrans	San Mateo County Transit District
SR	State Route
TA	Transportation Authority
TEA-21	Transportation Equity Act for the 21st Century
TIE	Transportation Involves Everyone
TRAC	Train Riders Association of California
TRANSDEF	Transportation Solutions Defense and Education Fund
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VMT	vehicle miles traveled
VTA	Santa Clara Valley Transportation Authority

STAFF REPORT FOR THE BAY AREA TO CENTRAL VALLEY HIGH-SPEED TRAIN (HST) PROGRAM ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT (EIR/EIS)

AGENDA ITEM 8 Consideration of a Resolution (1) Certifying the Final Bay Area to Central Valley High Speed Train System [HST] Program Environmental Impact Report/Environmental Impact Statement, (2) Adopting California Environmental Quality Act Findings and Statement of Overriding Considerations, (3) Approving a proposed alignment and station location options for the Bay Area to Central Valley, (4) Adopting a Mitigation Monitoring and Reporting Program [MMRP], and (5) Directing staff to file a Notice of Determination.

1.1 Summary

The adoption of the proposed resolution would complete the program phase of California Environmental Quality Act (CEQA) compliance by certifying the program-level tier of environmental review for, and by approving at the program level, the proposed Bay Area to Central Valley HST System alignment and station location options as part of the statewide HST system for the California.

1.2 Recommended Action

That the Authority adopt the attached Resolution No. 08-01, which would certify the Bay Area to Central Valley HST Program Environmental Impact Report/ Environmental Impact Statement (Program EIR/EIS), adopt CEQA Findings and Statement of Overriding Considerations, approve the Pacheco Pass alignment and station location options serving San Francisco and San Jose termini, and adopt a Mitigation Monitoring and Reporting Program.

1.3 Background Information

This section briefly describes the Bay Area to Central Valley HST environmental review under the CEQA and National Environmental Policy Act of 1969 (NEPA) certification process.

1.3.1 California High-Speed Train System

The California High-Speed Rail Authority (Authority) proposes a HST system for intercity travel in California between the major metropolitan centers of Sacramento and the San Francisco Bay Area in the north, through the Central Valley, to Los Angeles and San Diego in the south. The HST system is projected to carry as many as 117 million passengers annually by the year 2030. The Authority adopted a final business plan (Business Plan) in June 2000, which examined the economic viability of a train system capable of speeds in excess of 200 miles per hour (mph) (322 kilometers per hour [kph]) on a fully grade-separated track, with state-of-the-art safety, signaling, and automated control systems.

1.3.2 State-wide Program EIR/EIS

The Authority and Federal Railroad Administration (FRA) completed a statewide Program EIR/EIS in November 2005 as the first phase of a tiered environmental review process for the proposed HST system. The Authority resolution (No. 05-01) approved the HST system as the program alternative. The HST system would use electrically propelled steel-wheel-on-steel-rail trains capable of maximum operating speeds of 220 mph (350 kph) on dedicated, fully grade-separated lines. In addition, the HST system would use design practices to avoid, minimize, and mitigate potential impacts.

1.3.3 Bay Area to Central Valley Study

As part of the selection of the HST Alternative, the Authority and FRA defined as broad corridor between the Bay Area and Central Valley for additional review at the program level and directed staff to "prepare a separate program-level EIR to identify a preferred alignment within this broad corridor." This study region is generally bounded by (and includes) the Pacheco Pass (State Route 152 [SR 152]) to the south, the Altamont Pass (Interstate 580 [I-580]) to the north, the BNSF corridor to the east, and the Caltrain corridor to the west[1] (Figure 1).

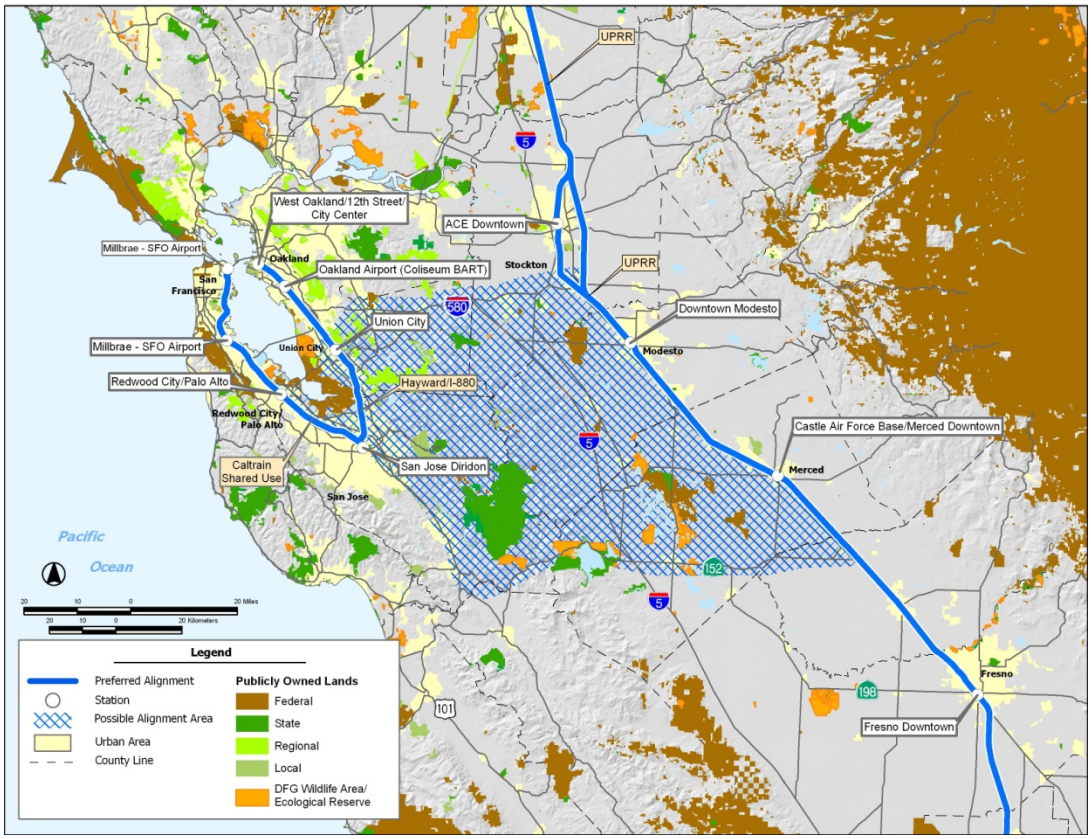

Figure 1. Bay Area to Central Valley Study Region

1.3.4 Summary of the Program EIR/EIS Process

Following certification of the statewide program EIR/EIS, the Authority and FRA initiated this Program level Bay Area to Central Valley environmental review process in compliance with NEPA (42 U.S.C. § 4321 *et seq.*) and CEQA (Cal. Pub. Resources Code § 21000 *et seq.).* As the next phase of the tiered environmental review, the Program EIR/EIS further examines the Bay Area to Central Valley region. The Authority is the project sponsor and the lead agency for purposes of the state CEQA requirements. The FRA is the federal lead agency for compliance under NEPA.

The Notice of Preparation (NOP) for the Program EIR/EIS was released November 14, 2005. The Notice of Intent (NOI) was published in the Federal Register on November 28, 2005. The scoping process included 12 officially noticed agency and public scoping meetings in late November and early December

1 Highway route numbers are provided only as a convenient reference for the reader, not as a limitation on the corridor to be considered.

2005. Recognizing the important relationship of HST alignments and stations to a regional rail system in the northern California area, the HST scoping meetings were held in conjunction with public meetings on the San Francisco Bay Area Regional Rail Plan initiation meetings.

The Authority also held numerous meetings with and invited input from regional and local agencies in the region potentially affected by the proposed HST system. Meetings of the Authority governing board were also a forum for providing information about the environmental process. These meetings were held in major cities in the project area to provide a convenient opportunity for regional and local participation and input.

Comments received during this scoping process assisted the Authority and FRA in their review and evaluation of possible HST Alignment Alternatives and station location options and identification of those to be carried forward for environmental evaluation in the Program EIR/EIS.

The Draft Program EIR/EIS was released for public review and comment on July 16, 2007, and noticed in the *Federal Register* on July 20, 2007. The initial public comment period was scheduled to end September 28, 2007, but due to public requests, it was extended to October 26, 2007.

The public was informed of the Draft Program EIR/EIS release through distribution of an announcement of the document's availability to the project mailing list, containing approximately 3,600 statewide contacts, including federal, state, and local elected officials; federal, state, and local agency representatives; chambers of commerce; environmental and transportation organizations; special interest groups; media; private entities; and members of the public. The Program EIR/EIS was also made available for viewing and downloading at the Authority's web site, www.cahighspeedrail.ca.gov. The announcement and web site listed the libraries with a hard copy of the document available for review. The release of the Draft Program EIR/EIS was announced through display ads distributed in the following newspapers: *Sacramento Bee, Daily Republic*, *Oakland Tribune*, *San Francisco Examiner*, *San Jose Mercury News*, *Modesto Bee*, *Merced Sun Star*, *Fresno Bee,* and *Stockton Record*.

The Authority held eight public hearings throughout the Bay Area and northern California: San Francisco, San Jose, Oakland, Gilroy, Livermore, Merced, Stockton and Sacramento. 163 people provided oral testimony and 27 provided written comments at the hearings. There were 106 written letters and faxes received (1 from federal elected officials[2], 8 from federal agencies, 4 from state elected officials[3], 6 from state agencies, 11 from local elected officials, 21 from local agencies[4], 22 from organizations[5], and 34 from individuals), and 104 people provided comments on the Authority's website (1 from a state agency, 5 from local agencies, 15 from organizations, and 83 from individuals).

In addition to comments received through the public hearings, written comments on the Draft Program EIR/EIS were sent to the Authority in the form of letters and faxes, and were also sent through the Authority's website. Table 1 lists the number of those providing comments during the public comment period including those from the public hearings. More than 400 people provided over 1,300 comments from July 20, 2007, to October 26, 2007, during the circulation period (either through written letters or oral comments).

[2] One letter signed by five federal elected officials of the U.S. Congress.

[3] One letter signed by four state elected officials of the California Legislature.

[4] One letter signed by three local agencies.

[5] One letter representing comments of 10 organizations/agencies.

Table 1. Comment Submittals on the Draft Program EIR/EIS

Method of Comment Sub-mission	Federal		State		Local		Organization	Individual	Total
	Elected	Agency	Elected	Agency	Elected	Agency			
Public Hearings									
Oral Testimony	4	0	1	3	21	30	47	57	163
Written	2	0	1	2	3	6	1	12	27
Letters/Faxes	1	8	4	6	12	24	17	35	107
Web				1		5	15	83	104
Total	15		18		101		80	187	401

All comments submitted to the Authority during this review period are addressed and responded to in Volume III of the Final Program EIR/EIS. The Final Program EIR/EIS evaluates the potential impacts of a full range of alignment alternatives and station location options in the study region and defines general mitigation strategies to address potentially significant adverse impacts. The Final Program EIR/EIS was made available to the public and public agencies on or about May 21, 2008, and notice of availability of the Final Program EIR/EIS was published in the Federal Register on May 30, 2008. In June 2008, the Authority issued an Addendum/Errata containing corrections to the Final Program EIR/EIS, that will be included in and considered a part of the Final Program EIR/EIS.

1.3.5 Areas of Controversy

In considering a choice of alignment alternatives and station location options to form an HST network in the study region, the Authority has taken into account potential impacts on natural resources, cost, travel conditions, effects on travel time and ridership, and public and agency input. Other considerations include possible modifications to alignment alternatives by using more costly designs and construction techniques (e.g., tunnels and elevated guideways), or moving the location of alignments for functional or cost reasons or to avoid or minimize impacts on sensitive resources. The following are the known principal areas of controversy:

- Selection of an HST network with appropriate service to the Bay Area, including choice of mountain crossing, choice of alignments, location of stations, and number of stations directly served (see Chapters 2, 7, and 8 of the Program EIR/EIS).
- Impacts on biological resources and wildlife areas, particularly related to the San Francisco Bay Crossings and the Grassland Ecological Area (GEA) (see Section 3.15 and Chapter 8 of the Program EIR/EIS).
- Impacts on urban areas, mostly from noise and visual effects, community effects, and property impacts related to right-of-way acquisition (see Sections 3.4, 3.7, and 3.9).
- Growth (see Chapter 5 of the Program EIR/EIS and Section 1.8 of this report)
- The Final Program EIR/EIS evaluates alignment alternatives and station location options comprising representative networks for connecting the HST system in the Bay Area to the Central Valley study region. The alignment alternatives identify general locations for HST tracks, structures, and systems for the HST system between logical points within the Bay Area to Central Valley study region. To minimize potential environmental impacts from the HST system, the Authority's objective has been to maximize the use of existing transportation corridors and rights-of-way for the HST system. Consistent with this objective, extensive portions of the alignment

alternatives were described and analyzed as if they were placed within or adjacent to existing rail or highway rights-of-way, rather than on new alignment. Evaluations for the previous Statewide HST System Program EIR and for the current Bay Area to Central Valley Final Program EIR have consistently shown a potential for fewer significant environmental impacts along existing transportation facilities than on new alignments through both developed and undeveloped areas.

At the same time that the Authority has attempted to minimize environmental impacts by locating alignment alternatives within existing transportation rights-of-way, the EIR does not assume or rely on their availability for its analysis. Figures 2.3-6, 2.3-7, and 2.3-8 in the Final Program EIR depict typical cross sections for HST facilities at grade, on an elevated structure, and where twin tunnels might be necessary. These figures show maximum proposed rights-of-way of 100 feet, 50 feet, or 120 feet for these facilities, respectively. At the programmatic level, this EIR has analyzed the impacts of constructing and operating the HST system along the proposed alignment alternatives conservatively, by evaluating direct and indirect impacts within a wide band that exceeds the maximum proposed HST right-of-way, whether in an existing transportation right-of-way or adjacent to it. For example, for biological impacts, the EIR defines the study area for direct biological impacts as 50 feet on either side of the alignment, and for indirect impacts as 1,000 feet in urban areas and 0.25 mile in rural areas on each side of the alignment. At the project level, when detailed field conditions, resource data and site-specific facility design information become available, certain impacts disclosed in this program EIR are expected to be far less in those circumstances when the actual final footprint of HST track can be located within existing rights-of-way rather than adjacent to them.

1.4 Decision before the High-Speed Rail Authority

1.4.1 Project Purpose and Need

The purpose of the Bay Area HST is to provide a reliable high-speed electrified train system that links the major Bay Area cities to the Central Valley, Sacramento, and Southern California, and that delivers predictable and consistent travel times. Further objectives are to provide interfaces between the HST system and major commercial airports, mass transit, and the highway network and to relieve capacity constraints of the existing transportation system in a manner sensitive to and protective of the Bay Area to Central Valley region's and California's unique natural resources.

This purpose is consistent with recent expressions of federal transportation policy, most notably the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (Public L. 109-59; 119 Stat. 1144 [2005]), Transportation Equity Act for the 21st Century (TEA-21) (Pub. L. 105-178; 112 Stat. 107 [1998]), and its predecessor the Intermodal Surface Transportation Efficiency Act (ISTEA (Pub. L. 102-240; 105 Stat. 1914 [1991]), which encourage public transportation investment that increases national productivity and domestic and international competition while improving safety and social and environmental conditions. Specifically, these policies encourage investments that offer benefits such as those listed below.

- Link all major forms of transportation.
- Improve public transportation systems and services.
- Provide better access to seaports and airports.
- Enhance efficient operation of transportation facilities and service.

The Authority's statutory mandate is to plan, build, and operate an HST system that is coordinated with the state's existing transportation network, particularly intercity rail and bus lines, commuter rail lines, urban rail transit lines, highways, and airports. The Authority has responded to this mandate by adopting the following objectives and policies for the proposed HST system.

- Provide intercity travel capacity to supplement critically over-used interstate highways and commercial airports.
- Meet future intercity travel demand that will be unmet by present transportation systems and increase capacity for intercity mobility.
- Maximize intermodal transportation opportunities by locating stations to connect with local transit, airports, and highways.
- Improve the intercity travel experience for Californians by providing comfortable, safe, frequent, and reliable high-speed travel.
- Provide a sustainable reduction in travel time between major urban centers.
- Increase the efficiency of the intercity transportation system.
- Preserve environmental quality and protect California's sensitive environmental resources by reducing emissions and vehicle kilometers/vehicle miles traveled for intercity trips.
- Consult with resource and regulatory agencies during the tier 1 environmental review and use all available information for identifying the alternative that is most likely to yield the least damaging practicable alternative by avoiding sensitive natural resources (e.g., wetlands, habitat areas, conservation areas) where feasible.
- Maximize the use of existing transportation corridors and rights-of-way, to the extent feasible.
- Develop a practical and economically viable transportation system that can be implemented in phases by 2020 and generate revenues in excess of operations and maintenance costs.

A. NEED FOR HIGH-SPEED TRAIN SYSTEM

Statewide Need

The capacity of California's intercity transportation system is insufficient to meet existing and future demand, and the current and projected future congestion of the system will continue to result in deteriorating air quality, reduced reliability, and increased travel times. The system has not kept pace with the tremendous increase in population and tourism in the state. The interstate highway system, commercial airports, and conventional passenger rail system serving the intercity travel market are currently operating at or near capacity and will require large public investments for maintenance and expansion in order to meet existing demand and future growth over the next 20 years and beyond. Moreover, the ability to expand many major highways and key airports is uncertain; some needed expansions may be impractical or may be constrained by physical, political, and other factors. Simply stated, the *need* for improvements serving intercity travel within California relates to the following issues.

- Future growth in demand for intercity travel.
- Capacity constraints that will result in increasing congestion and travel delays.
- Unreliability of travel stemming from congestion and delays, weather conditions, accidents, and other factors that affect the quality of life and economic well-being of residents, businesses, and tourism in California.
- Increasing frequency of accidents on intercity highways and passenger rail lines in congested corridors of travel.
- Reduced mobility as a result of increasing demand on limited modal connections between major airports, transit systems, and passenger rail in the state.
- Poor and deteriorating air quality and pressure on natural resources as a result of expanded highway and airports.

Regional Need

The needs of the Bay Area to Central Valley region are similar to those identified for the statewide HST system.

Regional Growth

Today, the nine-county Bay Area is home to nearly 7 million people and more than 3 million jobs. By 2050, the region's population is anticipated to grow by more than 40%, for a total of 10 million people. This population growth will put tremendous pressure on the existing transportation network, and the peak travel periods are expected to encompass many more hours of the day. For example, the Metropolitan Transportation Commission's (MTC's) 2000 San Francisco Bay Crossing Study projected the Bay Bridge peak period to more than double from 1.5 hours in 2000 to 3.5 hours by 2020.

Additionally, growth in the region is taking place in the form of dispersed land uses that rely on individual vehicles for most trips. Without improved and more extensive transit systems leading to the main Central Valley cities and connecting them to each other, there will be little chance for these cities to move toward compact transit-oriented development.

Regional Congestion

The Bay Area already experiences the second-worst traffic congestion in the country, after Los Angeles. Congestion is expected to worsen over the next 25 years, especially in existing hotspots. The combination of significant population growth, dispersed development patterns (requiring a car for most trips), highway facilities that cannot keep pace with traffic demands, and large increases in interregional commuting, has worsened and will continue to worsen congestion levels and the associated environmental and economic impacts.

Economic Implications

The adverse economic impacts of congestion and inadequate transportation/transit access are already apparent. The 150,000 daily hours of Bay Area commute congestion had an estimated cost of $2.6 billion in 2003 alone. When transportation access to urban and suburban centers becomes too difficult, employers are likely to move jobs to areas where land prices are lower and workers' commutes might be shorter. Without better passenger rail access, major job growth will continue to decentralize and move to places like the Central Valley.

Environmental Implications

Without an expanded rail and transit network and more compact development, there may be greater adverse effects on the natural environment. More than 400,000 acres (ac) (161,874 hectares [ha]) of land in the Bay Area are at risk from development. Promoting development in walkable communities near HST, intermodal, and other transit stations offers the best opportunity for taking development pressure off open space and farms. Demand for an additional 550,000 homes near transit in the Bay Area by 2030 is anticipated, but transit-oriented development functions well only when transit service is sufficiently frequent and reliable that residents can reduce the length and the number of car trips they take.

An additional growing environmental concern is global climate change, and the transportation sector is responsible for about 40% of greenhouse gas emissions in California and up to 50% in the Bay Area. Because these emissions are directly proportional to the amount of fuel burned, offering effective and efficient transportation choices can result in reduced driving and reduced emissions.

1.4.2 Policy Level Nature of Decision and Tiering

The proposed HST system in the Bay Area to Central Valley corridor is subject to environmental review under CEQA, and the Authority is both the project sponsor and lead agency for CEQA compliance. The Authority has determined that a Program EIR is the appropriate CEQA document for the project at this conceptual stage of planning and decision-making, which includes selecting a preferred alignment and station locations.

Because of possible funding and regulatory action, the FRA is the lead federal agency, working with the Authority as the lead state agency, for the environmental review required by NEPA and related statutes. The FRA has determined that preparation of a tier 1, program-level EIS for the proposed HST system in the Bay Area to Central Valley corridor is the appropriate NEPA document because of the conceptual stage of planning and decision-making. Decisions related to advancing and ultimately constructing the proposed HST system could constitute major federal actions requiring environmental review under NEPA for several federal agencies in addition to the FRA, including the Federal Highway Administration (FHWA) U.S. Environmental Protection Agency (EPA), U.S. Army Corps of Engineers (USACE), Federal Aviation Administration (FAA), U.S. Fish and Wildlife Service (USFWS, and Federal Transit Administration (FTA). The EPA and USACE are cooperating agencies for the Program EIR/EIS.

No permits are being sought in this phase of environmental review. After selection of preferred alignments and station locations in the Bay Area to Central Valley corridor and completion of the Program EIR/EIS, project-specific environmental documentation will be prepared to assess in more detail the impacts of the preferred alignment and station locations options. Preparation of a program-level document followed by more detailed project-specific documents that *tier* [6] off the program document offers a number of advantages. As described in Council on Environmental Quality (CEQ) regulations (40 CFR § 1508.28), FHWA Guidelines (23 CFR Part 771; 52 FR § 32646 [August 1987]), and the State CEQA Guidelines (14 CCR § 15168[b]), this approach offers the following advantages:

- More exhaustive consideration of impacts and alternatives than would be practical in an individual or project-specific EIR/EIS.
- Consideration of cumulative impacts that might be slighted in a case-by-case analysis.
- An opportunity for decision-makers to consider broad policy alternatives and program-level mitigation strategies at an early stage, when the flexibility to incorporate them is greater.
- Ability to avoid reconsideration of policy issues in subsequent documents.
- Early coordination with USACE and EPA to identify avoidance and minimization opportunities that are likely to yield or will lead to the selection of a least environmentally damaging practicable alternative (LEDPA) under Section 404 of the Clean Water Act (CWA).
- Less paperwork by encouraging the reuse of data through incorporation by reference in subsequent tiered documents.

Program or first-tier EIRs or EISs are deliberately focused on the “big picture” impacts of proposed decisions. A program EIR/EIS is an informational document intended to analyze and to disclose to the public and to public decision-makers the environmental effects and benefits of a proposed program and its alternatives. Tiering assists the Authority and FRA in focusing on issues that are ripe for decision at each state of environmental review and in excluding from consideration issues that have already been decided or deferring those that are not ready for decision.

6 *Tiering* refers to a multilevel approach where a first tier environmental document analyzes general matters and subsequent tiers analyze narrower projects/actions, referencing the more general document.

The Authority and the FRA have intentionally tailored the scope of this environmental analysis to the conceptual nature of the proposed decisions, consistent with the concept of tiering in both NEPA and CEQA. As a programmatic document, the Program EIR/EIS does not analyze detailed, site-specific impacts of future projects to construct sections of the HST system, nor does it purport to be able to identify all of the detailed impacts of each alignment or station location option. Rather, it focuses on identifying and describing key differences in potential impacts for each of the alternatives. More detailed analyses will be provided in future project-level environmental documents.

The Bay Area to Central Valley Program EIR/EIS is specifically designed to assist the Authority in making the fundamental choice of a preferred alignment within the broad corridor between and including the Altamont Pass and Pacheco Pass for the HST segment connecting the San Francisco Bay Area to the Central Valley. In selecting alignments and station locations, the Authority will not be selecting a precise footprint for improvements, but rather a conceptual corridor alignment subject to further refinement. Future tiered project-level environmental documents will assess the impacts of constructing and implementing individual HST projects for sections of the HST system and will examine specific project location alternatives for the selected corridor alignment and alternative station sites for the selected location options, utilizing design practices described in the EIR/EIS to avoid and minimize impacts to the greatest extent possible. These second-tier documents will concentrate on issues specific to the individual project being considered and site(s) chosen for the action before construction can be initiated.

The environmental reviews and initial studies for site-specific, second-tier projects can incorporate by reference the discussions in the program EIR, and "concentrate on the environmental effects which (a) are capable of being mitigated, or (b) were not analyzed as significant effects on the environment in the prior environmental impact report." (Public Resources Code section 21068.5.)

The Program EIR/EIS was prepared under the supervision and direction of the Authority and the FRA in conjunction with other federal agencies and with input from state and local agencies. It is intended that other federal, state, regional, and local agencies use the Program EIR/EIS to review the proposed program and develop expectations for the project-level (tier 2) environmental reviews that would follow selection of the preferred HST alignment and station locations in the Bay Area to Central Valley corridor.

Methods of impact evaluation for the project were developed with input from both state and federal resource agencies. Due to the sheer number and length of the alignment alternatives and the number of station location options being considered, detailed field surveys and extensive evaluations of affected resources were not practical or necessary for the Program EIR/EIS. The lists and tables of resources proximate to alignment alternatives and station location options served to adequately portray the overall potential impacts in a manner that allowed for a comparison of the key differences.

The preparation of the Program EIR/EIS was coordinated with the concurrent preparation of a Bay Area Regional Rail Plan by a coalition of the San Francisco Bay Area Rapid Transit District (BART), the Metropolitan Transportation Commission (MTC), the Peninsula Corridor Joint Powers Board (Caltrain), and the Authority. Bay Area voters in 2004 passed Regional Measure 2, which required MTC to adopt a Regional Rail Plan. As stipulated in the Streets and Highways Code Section 30914.5 (f), the Regional Rail Plan defined the future passenger rail transportation network for the nine-county San Francisco Bay Area, including an evaluation of the HST options. Information on the Regional Rail Plan is available at www.bayarearailplan.info.

1.4.3 Elements of the Decision Process

A. CERTIFICATION AND COMPLIANCE WITH CEQA

At the time of its decision on the Final Program EIR/EIS, CEQA requires the Authority, as the lead agency, to take various actions.

CEQA Certification

Before approving a proposed preferred HST alternative and station location options, the Authority must certify that (1) the Final EIR/EIS has been prepared in compliance with CEQA; (2) the Final EIR has been reviewed and considered by the agency; and (3) the Final EIR reflects it's independent judgment and analysis as the lead agency. (Pub. Resources Code § 21100; CEQA Guidelines § 15090.)

Adoption of Findings

If an EIR/EIS identifies one or more significant effects on the environment that would occur as a result of the proposed program, the Authority must make one of three findings with respect to each significant effect (Public Resources Code § 21081(a); CEQA Guidelines § 15091):

- Changes have been made to the project, or incorporated into the project, which mitigate or avoid the identified significant effects on the environment.
- Those changes or alterations (i.e., mitigation measures) are within the responsibility and jurisdiction of another public agency, and have been or can and should be adopted by that other agency.
- The agency finds that the mitigation measures or alternatives are infeasible for specific "economic, legal, social, technological, or other considerations."

Overriding Considerations

If significant effects cannot be mitigated to a less-than-significant level, the Authority must also adopt findings indicating the specific overriding economic, legal, social, technological, or other benefits of the project which are viewed as outweighing each of the significant adverse effects. (Pub. Resources Code § 21081(b).)

Adoption of Project to be Carried Forward

As part of the certification process and consistent with the intent of the Program EIR/EIS, the Authority would adopt or approve a project to be carried forward into the project-level review, including the proposed HST alignment and station location options.

Adoption of Mitigation Monitoring Program Plan Report

Section 21081.6 of CEQA requires public agencies to adopt a reporting or monitoring program whenever a project or program is approved that includes mitigation measures identified in an environmental document.

Filing of Notice of Determination

Finally, after (i) certifying the Final Program EIR, (ii) adopting findings, as described above, (iii) incorporating as conditions of approval feasible mitigation measures to reduce significant adverse environmental impacts, and (iv) adopting a statement of overriding considerations for any expected remaining significant adverse environmental effects, and if an approval decision is made, the Authority would direct the filing of a Notice of Determination with the Governor's Office of Planning and Research. (CEQA Guidelines § 15094.)

B. FRA—RECORD OF DECISION AND COMPLIANCE WITH NEPA

At the time of its decision, NEPA requires the FRA to prepare a "concise public record of decision." (40 Code of Federal Regulations (CFR) § 1505.2.) The FRA will likely issue its Record of Decision (ROD) for the EIS after the Authority has considered and reached its decisions on the Final EIR. The ROD issued by the FRA will do the following:

- State what the decision is.
- Identify the alternatives considered by the agency in reaching its decision.
- Identify and discuss the factors considered and balanced by the agency in making its decision, including economic and technical considerations and agency statutory missions, and how those considerations entered into its decision.
- Specify the alternative or alternatives which were considered environmentally preferable, which ordinarily means the alternative that causes the least damage to the biological and physical environment and also best protects, preserves, and enhances historic, cultural, and natural resources.
- State whether all practical means to avoid or minimize environmental harm from the alternative selected have been adopted, and, if not, why they were not.
- Adopt and summarize a monitoring and enforcement program where applicable for any mitigation.

1.5 Range of Alternatives Studied

1.5.1 Description of HST System

The proposed HST system selected in the statewide program EIR/EIS (Authority and FRA 2005) and further analyzed in the Bay Area to Central Valley Program EIR/EIS is electrified steel-wheel-on-steel-rail dedicated service, with a maximum speed of 220 mph (350 kph). A fully grade-separated, access-controlled right-of-way would be constructed and in some areas would share tracks at lower speeds with other compatible passenger rail services. Shared-track operations would use existing rail infrastructure in areas where construction of new separate HST facilities would not be feasible. Although shared service would reduce the flexibility and capacity of HST service because of the need to coordinate schedules, it would also result in fewer environmental impacts and a lower construction cost.

1.5.2 Identification of Bay Area to Central Valley Alignment Alternatives and Station Location Options

Informed by previous studies and the scoping process, the Authority and the FRA evaluated potential HST Alignment Alternatives in the study region and defined those that best meet the project purpose (see Section 1.4.1 of this report), which is *to provide a reliable high-speed electrified train system that links the major Bay Area cities to the Central Valley, Sacramento, and Southern California, and that delivers predictable and consistent travel times. Further objectives are to provide interfaces between the HST system and major commercial airports, mass transit and the highway network and to relieve capacity constraints of the existing transportation system in a manner sensitive to and protective of the Bay Area's and California's unique natural resources.* The study region is shown in Figure 1.

A. SCREENING PROCESS

The Authority and FRA conducted a screening evaluation to identify potential alignment alternatives and station location options that are anticipated to be practicable, reasonable, and feasible for further consideration in the Program EIR/EIS. The screening evaluation included the following activities:

- Review of alignment alternatives and station location options identified in previous studies in the study region.
- Identification of alignment alternatives and station location options not previously evaluated.
- Evaluation of alignment alternatives and station location options using standardized engineering, environmental, and financial criteria and evaluation methodologies.

- Evaluation of alignment alternatives and station location options against defined objectives.

B. PERFORMANCE CRITERIA

The alignment and station-screening evaluation was combined with public and agency input that together provided the Authority and the FRA with the necessary information to identify a reasonable range of alignment, station location, and HST corridor options. The evaluation of potential HST Alignment Alternatives and station location options within viable corridors used the following standardized criteria:

- Construction: Substantial engineering and construction complexity as well as excessive initial and/or recurring costs were considered criteria for project impracticability because they present logistical constraints.
- Environment: A high potential for considerable impacts to natural resources including water resources, streams, floodplains, wetlands, and habitat of threatened or endangered species was considered a criterion for failing to meet project objectives.
- Land Use Compatibility: Substantial incompatibility with current or planned local land use as defined in local plans was considered a criterion for failing to meet project objectives.
- Right-of-Way: A lack of available right-of-way or extensive right-of-way needs that would result in excessively high acquisition costs for a corridor, technology, alignment, or station was considered criteria for project impracticability.
- Connectivity/Accessibility: Limited connectivity with other transportation modes (aviation, highway, or transit systems) that would impair the service quality and could reduce ridership of the HST system was considered a criterion for failing to satisfy the project purpose.
- Ridership/Revenue: Longer trip times or suboptimal operating characteristics that would result in low ridership and revenue were considered criteria for failing to satisfy the project purpose.

Table 2 presents the relationship of objectives and criteria applied in the screening evaluation. The objectives and criteria used in this evaluation represent further refinement of those used in previous studies and incorporated the HST system performance goals and criteria. Alignment alternatives and station location options were considered and compared based on these established objectives and criteria.

Table 2. High-Speed Rail Alignment and Station Evaluation Objectives and Criteria

Objective	Criteria
Maximize ridership/revenue potential	• Travel time • Length • Population/employment catchment area
Maximize connectivity and accessibility	• Intermodal connections
Minimize operating and capital costs	• Length • Operational issues • Construction issues • Capital cost • Right-of-way issues/cost
Maximize compatibility with existing and planned development	• Land use compatibility and conflicts • Visual quality impacts

Objective	Criteria
Minimize impacts on natural resources	• Water resources impacts • Floodplain impacts • Wetland impacts • Threatened and endangered species impacts
Minimize impacts on social and economic resources	• Environmental justice impacts (demographics) • Farmland impacts
Minimize impacts on cultural and parks/wildlife refuge resources	• Cultural resources impacts • Parks and recreation impacts • Wildlife refuge impacts
Maximize avoidance of areas with geologic and soils constraints	• Soils/slope constraints • Seismic constraints
Maximize avoidance of areas with potential hazardous materials	• Hazardous materials/waste constraints

At the screening stage, some alignment alternatives and station location options were considered and removed from further study.

- For most of the alignment alternatives and station location options not carried forward in the Program EIR/EIS, failure to meet the general project purpose and objectives and practicability constraints were the primary reasons for elimination.
- Environmental criteria were considered a reason for elimination when an alignment alternative or station location option had considerably more probable environmental impacts than other practicable alignment alternatives or station location options for the same corridor.
- General project purpose and objectives were considered in terms of ridership potential, connectivity and accessibility, incompatibility with existing or planned development, and severe operational constraints.
- Practicability constraints were considered in terms of cost, constructability, right-of-way constraints, and other technical issues. To assess the constructability of tunnels, some specific thresholds were established to help guide the evaluation. Continuous tunnel lengths of more than 12 mi (19 km) were considered impracticable, and the crossing of major fault zones at grade was also identified as a necessary criterion. For other practicability considerations (e.g., right-of-way constraints, construction issues, costs) thresholds could not be established for this program-level evaluation and impracticability was determined based on professional judgment.

1.5.3 Bay Area to Central Valley Alignment Alternatives and Station Location Options Evaluated in the Program EIR/EIS

The alignment alternatives and station location options evaluated in the Program EIR/EIS are shown in Figure 2 and described as part of this section. Proposed HST Alignment Alternatives are generally configured along or adjacent to existing rail transportation facilities, instead of creating new transportation corridors. Although a wide range of options have been considered, the Authority's initial conceptual approach, previous corridor evaluations, and the evaluation conducted as part of the Program EIR/EIS have consistently shown a potential for fewer substantial environmental impacts along existing highway and rail facilities than on new alignments through both developed and undeveloped areas. Although increasing the overall width of existing facilities could have potential impacts on the amount of land disturbed similar to those of creating new facilities, creating new facilities would also introduce potential incompatibility and severance issues in both urban communities and rural settings (farmlands, open spaces).

The station location options described in this section were identified generally and represent the most likely sites based on current knowledge, consistent with the objective to serve the state's major population centers. There is a critical tradeoff between accessibility of the system to potential passengers and the resulting HST travel times (i.e., more closely spaced stations will lengthen the travel times for local service as well as express services). The station locations shown here are spaced approximately 50 mi (80 km) apart in rural areas and 15 mi (24 km) apart in the metropolitan areas. Additional or more closely spaced stations would negatively affect travel times and the ability to operate both express and local services. Several key factors were considered in identifying potential station stops, including speed, cost, local access times, potential connections with other modes of transportation, ridership potential, and distribution of population and major destinations along the route. The ultimate locations and configurations of stations cannot be determined until the project-level environmental process has been completed.

As part of the development of the *Bay Area Regional Rail Plan,* some HST Alignment Alternatives were considered for regional rail "overlay" services that would be implemented by other transportation agencies in cooperation with the Authority. Overlay services would involve operating regional commuter trains on the HST infrastructure and serving additional non-HST regional rail stations. These regional rail stations and services are not integral to the HST system and are not alternatives in the Program EIR/EIS; however, they are considered in the cumulative analysis of HST Alignment Alternatives as related but separate potential projects.

The alignment alternatives and station location options analyzed in the Program EIR/EIS are shown in Figure 2.

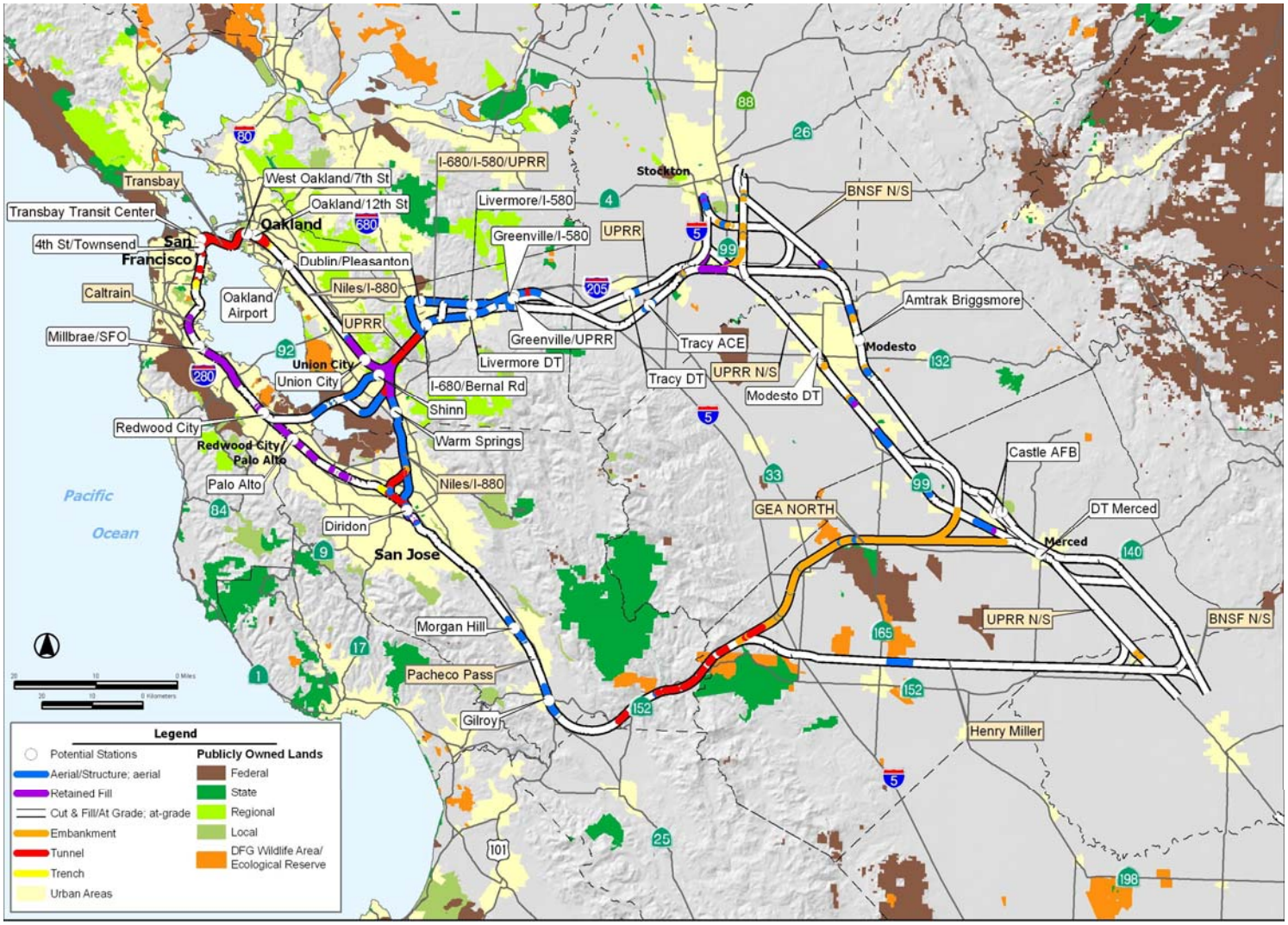

Figure 2. Alignment Alternatives and Station Location Options in the Program EIR/EIS

Conceptual designs were developed for all of the alignment alternatives and station location options. These designs are illustrated in plan and profile sheets (Appendix 2-D), cross sections (Appendix 2-E), and station fact sheets (Appendix 2-F) of the Program EIR/EIS. Conceptual designs are based on *Engineering Criteria* (Authority and FRA 2004). A map illustrating the horizontal alignment and profile type (aerial, at grade, or tunnel) are shown in Figure 3.

The relation of each of the alignment alternatives to other existing transportation facilities is also a key aspect of the conceptual designs. Figure 4 illustrates the alignment characteristics (relation to existing corridors and proposed configurations) for the alignment alternatives.

To facilitate this analysis, the study area was divided into six corridors within the study region.

- San Francisco to San Jose.
- Oakland to San Jose.
- San Jose to Central Valley.
- East Bay to Central Valley.
- San Francisco Bay Crossings.
- Central Valley Alignment.

Alignment Alternatives and station location options within these corridors are identified below.

San Francisco to San Jose Alignment Alternatives

- Caltrain Alignment (Shared-Use Four-Track): From San Francisco, this alignment alternative would follow south along the Caltrain rail alignment to Dumbarton and from there to San Jose. This alignment alternative assumes that the HST system would share tracks with Caltrain commuter trains. The entire alignment would be grade separated. Station location options would include a station in the lower level of the proposed new Transbay Transit Center in San Francisco or a station at 4th and King Streets, a station in Millbrae to serve SFO, and a station in either Redwood City or Palo Alto. The Caltrain shared-use alignment would take advantage of the existing rail infrastructure and would be mostly at-grade.

Station Location Options

San Francisco

- Transbay Transit Center: This potential station location would serve the Caltrain shared-use alignment as a downtown terminal station.
- 4th and King (Caltrain): This potential station location would serve the Caltrain shared-use four-track alignment as a downtown terminal station.

San Francisco International Airport

- Millbrae: This potential station would serve as a connection with SFO.

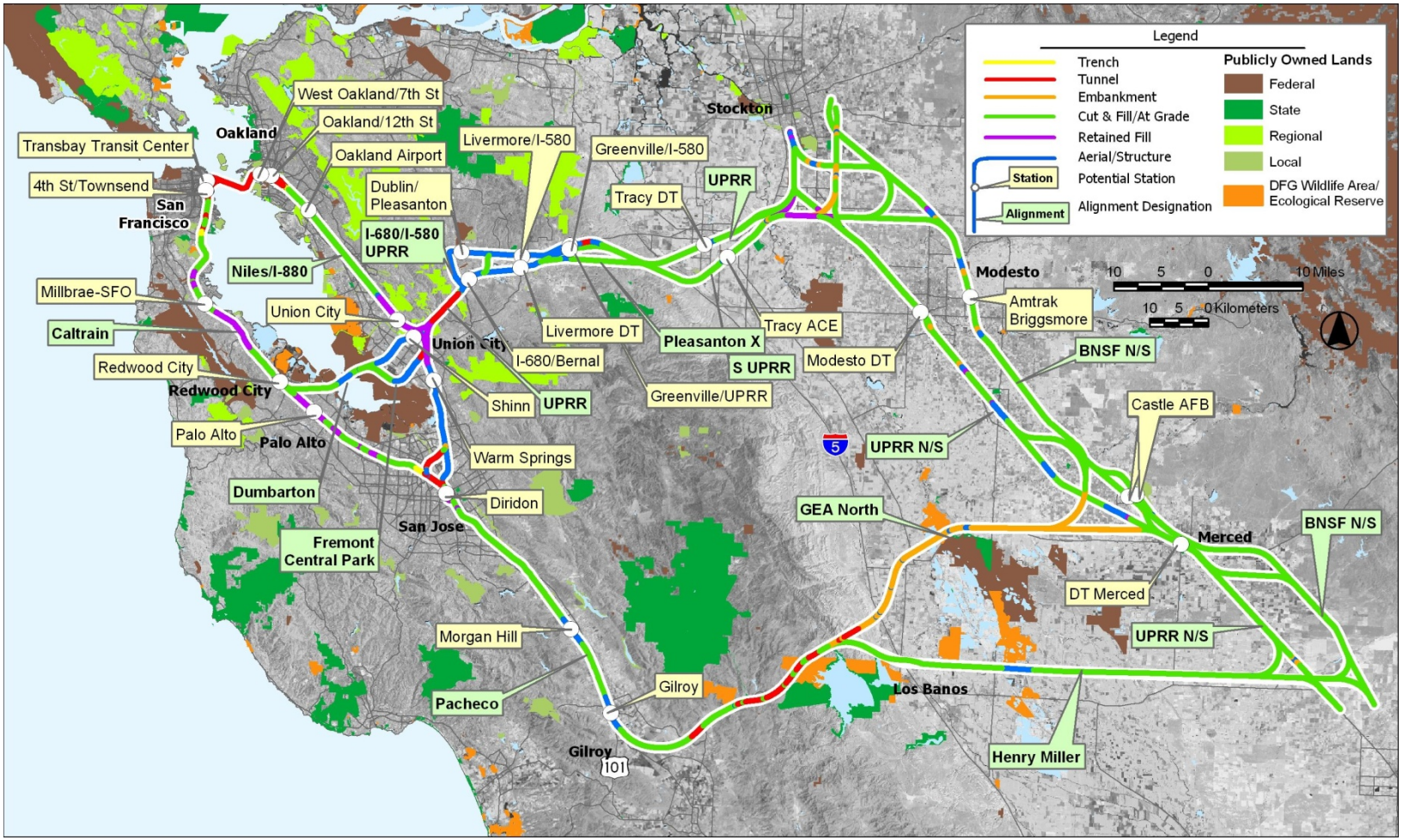

Figure 3. Alignment Profile Characteristics

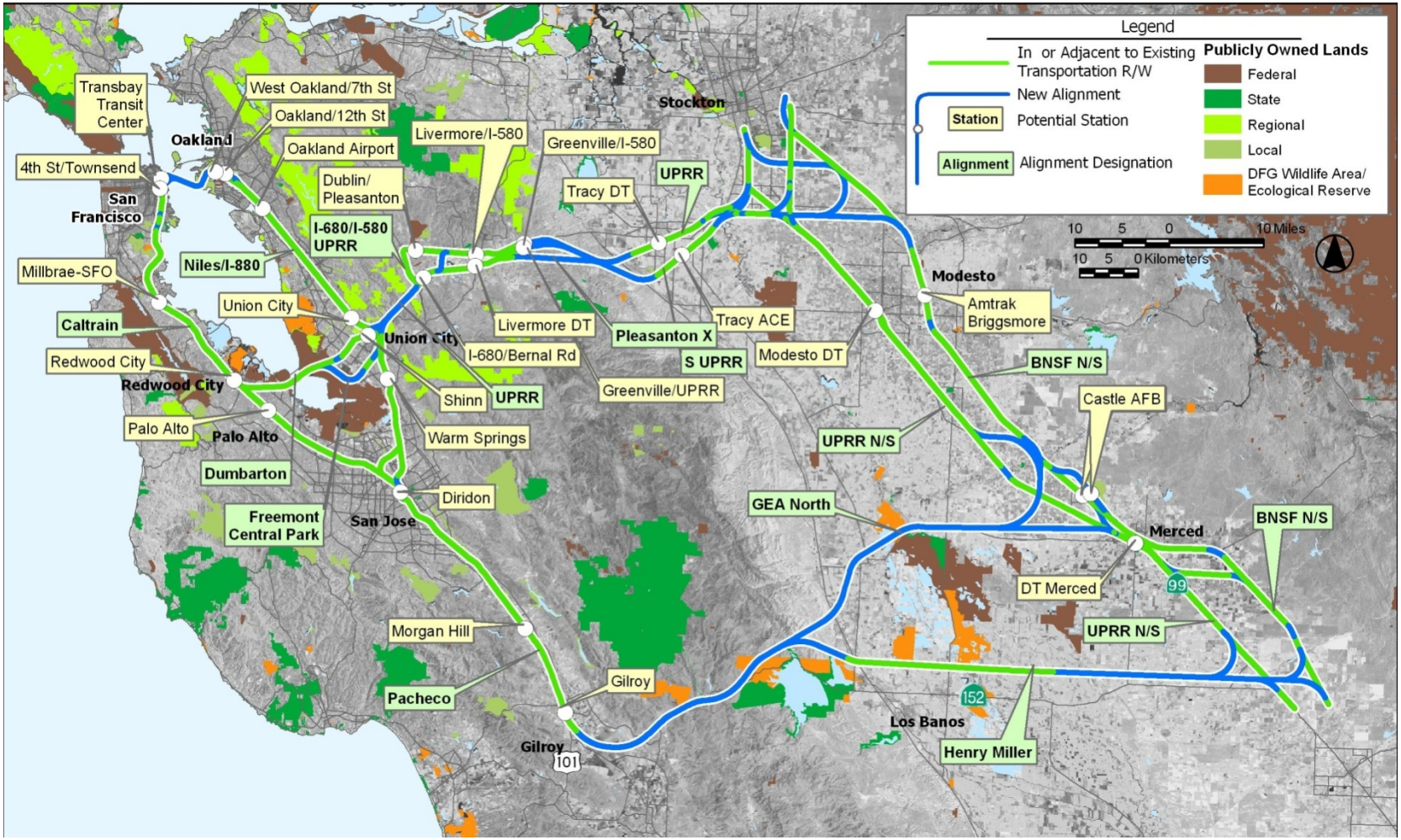

Figure 4. Relationship of Alignments to Major Transportation Facilities

Mid-Peninsula

- Redwood City (Caltrain): This potential station location would provide accessibility and serve the population between San Jose and San Francisco.
- Palo Alto (Caltrain): This potential station location would provide accessibility and serve the population between San Jose and San Francisco.

Oakland to San Jose Alignment Alternatives

- Niles Subdivision Line to I-880 (Niles/I-880): From Oakland, this alignment alternative would travel south following the UPRR's Niles Subdivision Line (i.e., Hayward Line) transition to the UPRR's Warm Springs Subdivision (Milpitas Line) at Niles Junction and then transition to the I-880. Station location options include Oakland, Oakland Airport and Union City (BART) or Fremont (Warm Springs).

  The alignment would be at-grade along the Niles Subdivision Line and on an aerial structure in the median of I-880. The I-880 HST portion would mostly be on an aerial configuration from Fremont to San Jose. This alignment would require the construction of columns and footings in the wide median of I-880.

- Niles Subdivision Line to I-880 to Trimble Road (Niles/I-880/Trimble Rd.): From Oakland, this alignment alternative would travel south following the UPRR's Niles Subdivision Line (i.e., Hayward Line), transition to the UPRR's Warm Springs Subdivision (Milpitas Line) at Niles Junction and then transition to I-880 and then to Trimble Road. Station location options include Oakland, Oakland Airport, and Union City (BART) or Fremont (Warm Springs).

  The alignment would be at-grade along the Niles Subdivision Line and on an aerial structure in the median of I-880. The I-880 HST portion would mostly be on an aerial configuration from Fremont to San Jose. The Trimble Road segment would be on an aerial structure and in a tunnel (where adjacent to San Jose International Airport). This alignment would require the construction of columns and footings in the wide median of I-880.

Station Location Options

Oakland

- West Oakland: This potential station location would serve Oakland the Niles/I-880 Alignment.
- 12th Street/City Center: This potential station location would serve Oakland from the Niles/I-880 Alignment

Oakland International Airport

- Coliseum/Airport BART Station: This potential station location would serve the Oakland Airport from the Niles/I-880 Line.

Southern Alameda County

- Union City (BART): This potential station location would serve the population centers between Oakland and San Jose from the Niles/ I-880 Line.
- Fremont (Warm Springs): This potential station location would serve the population centers between Oakland and San Jose from the Niles/ I-880 Line.

San Jose to Central Valley Alignment Alternatives

Pacheco Pass Alignments

- Caltrain/Pacheco/Henry Miller Avenue: This alignment alternative would extend south along the Caltrain/UPRR rail corridor through the Pacheco Pass and a portion of the GEA along Henry Miller Road and then across the San Joaquin Valley. Station location options include the existing San

Jose (Diridon) Station and Gilroy (near the existing Caltrain Station) or Morgan Hill (near the existing Caltrain Station).

- Caltrain/Pacheco/GEA North/Merced: This alignment alternative would extend south along the Caltrain/UPRR rail corridor through the Pacheco Pass, pass through the northern portion of the GEA and then across the San Joaquin Valley. Station location options include the existing San Jose (Diridon) Station and Morgan Hill (near the existing Caltrain Station) or Gilroy (near the existing Caltrain Station).

Station Location Options

San Jose

- San Jose (Diridon): This potential station location would serve all alignments (Caltrain/Monterey Highway rights-of-way) out of San Jose.

South Santa Clara County

- Morgan Hill (Caltrain): This potential station location would serve all the Pacheco Pass alignment alternatives.
- Gilroy (Caltrain): This potential station location would serve all the Pacheco Pass alignment alternatives.

East Bay to Central Valley Alignment Alternatives

Altamont Pass

- UPRR: This alignment alternative would extend east via a relatively direct routing (mostly in tunnel) between Niles Junction and I-680 then use the UPRR alignment through Pleasanton and Livermore before transitioning to the I-580 corridor through the Altamont Pass to Tracy. Station location options include the Pleasanton (Bernal/I-680) Station, Livermore (near downtown), or Livermore (Greenville Rd.) and Tracy (downtown) or Tracy (ACE).
- I-580/UPRR: This alignment alternative would extend east via a relatively direct routing (mostly in tunnel) between Niles Junction and I-680 then use the UPRR alignment through Pleasanton before transitioning to the I-580 corridor through Livermore and the Altamont Pass to Tracy. Station location options include the Pleasanton (Bernal/I-680) Station, Livermore (I-580), or Livermore (Greenville Rd.) and Tracy (downtown) or Tracy (ACE).
- I-580/I-680/UPRR: This alignment alternative would extend east via a relatively direct routing (mostly in tunnel) between Niles Junction and I-680 then use the I-680 alignment before transitioning I-580 corridor (at the I-580/I-680 junction). Station location options include the Pleasanton (BART) Station, Livermore (I-580), or Livermore (Greenville Rd.) and Tracy (downtown) or Tracy (ACE).
- Patterson Pass/UPRR: This alignment alternative would extend east via a relatively direct routing (mostly in tunnel) between Niles Junction and I-680 then use the UPRR alignment through Pleasanton and Livermore before transitioning to the I-580 corridor through the Patterson Pass between Livermore and Tracy. Station location options include the Pleasanton (Bernal/I-680) Station, Livermore (near downtown), and Tracy (downtown) or Tracy (ACE).

Station Location Options

Tri-Valley

- Pleasanton (1-680/Bernal Road): This potential station location would serve the Altamont I-580/UPRR alignment alternative and the Altamont UPRR alignment alternative.
- Pleasanton (BART): This potential station location would serve the Altamont I-580/I-680/UPRR alignment alternative.

- Livermore (Downtown): This potential station location would serve the Altamont UPRR alignment alternative.
- Livermore (I-580): This potential station location would serve the Altamont I-580/I-680/UPRR alignment alternative and the Altamont I-580/UPRR alignment alternative.
- Livermore (Greenville Road/UPRR): This potential station location would serve the Altamont UPRR alignment alternative.
- Livermore (Greenville Road/I-580): This potential station location would serve the Altamont I-580/I-680/UPRR alignment alternative and the Altamont I-580/UPRR alignment alternative.

Tracy

- Tracy (Downtown): This potential station location would serve all Altamont Pass alignment alternatives.
- Tracy (ACE): This potential station location would serve all Altamont Pass alignment alternatives.

San Francisco Bay Crossings Alignment Alternatives

- New Transbay Tube: This alignment alternative would connect the Oakland (West Oakland or 12th Street City Center) and San Francisco (Transbay Transit Center or 4th and King) HST stations via a new transbay tube. This alignment alternative could serve either Altamont Pass or Pacheco Pass alignment alternatives.
- Dumbarton Rail Crossing (Centerville): This alignment alternative would serve the Altamont Pass alignment alternatives and link the East Bay to the Peninsula in the vicinity of the existing Dumbarton Rail Bridge. Between Niles Junction and the Dumbarton Bridge, this alignment would use the Centerville rail alignment. Possible designs for this alignment include use of an improved Dumbarton Rail Bridge (low level), a new high-level bridge, and a new transbay tube.
- Dumbarton Rail Crossing (Fremont Central Park): This alignment alternative would serve the Altamont Pass alignment alternatives and link the East Bay to the Peninsula in the vicinity of the existing Dumbarton Rail Bridge. Between Niles Junction and the Dumbarton Bridge, this alignment would use an existing utility alignment and a new alignment through the Don Edwards Natural Wildlife Refuge. This alignment would require tunneling under Fremont Central Park. Possible designs for this alignment include use of an improved Dumbarton Rail Bridge (low level), a new high-level bridge, and a new transbay tube.

Station Location Options

Southern Alameda County

- Union City (Shinn): This potential station would serve the population centers between Oakland and San Jose only for Altamont Pass (East Bay to Central Valley) alignment alternatives using the Dumbarton Rail Crossing (Centerville) connection to the San Francisco Peninsula.

Central Valley Alignment Alternatives

- BNSF Rail Line: This alignment alternative would connect with either the Altamont or Pacheco Pass alignment alternatives. This north-south alignment would link the Bay Area to Central Valley population centers, Sacramento, and southern California. Station location options include Modesto (Briggsmore) and Merced (Downtown and Castle AFB).
- UPRR Line: This alignment alternative would connect with either the Altamont or Pacheco Pass alignment alternatives. This north-south alignment would link the Bay Area to Central Valley population centers, Sacramento, and southern California. Station location options include Modesto (Downtown) and Merced (Downtown and Castle AFB).

Station Location Options

Modesto

- Downtown Modesto: This potential station location would serve the Altamont Pass and Pacheco Pass alignment alternatives using the UPRR alignment alternative.
- Briggsmore (Amtrak): This potential station location would serve Altamont Pass and Pacheco Pass alignment alternatives using the BNSF alignment alternative.

Merced

- Downtown Merced: This potential station location would serve all Altamont Pass and Pacheco Pass alignment alternatives.
- Castle AFB: This potential station would serve all Altamont Pass and Pacheco Pass alignment alternatives.

1.5.4 Design Practices

Design practices have been and will continue to be applied to the identified HST alignments. Key aspects of the design practices include (i.e., are not limited to) the following:

- Minimize impact footprint and associated direct impacts on farmland, parkland, biological, and water resources through maximum use of existing transportation corridors.
- Minimize impact associated with growth effects through the selection of multi-modal transportation hubs for potential HST station locations that would maximize access and connectivity as well as provide efficient (transit-oriented) growth centered on these station locations.
- Minimize impact on farmlands and associated growth through the selection of multi-modal transportation hubs for potential HST station locations that would maximize access and connectivity as well as provide for efficient (transit-oriented) growth centered on these station locations.
- Increase safety and circulation and potentially reduce air pollution and noise impacts, through use of grade separation at road crossings, of considerable portions of adjacent existing services with construction of the planned HST system.
- Pursue agreements with owners/rail operators to place the HST alignment within existing rail rights-of-way, to reduce the need for additional right-of-way and minimize potential impacts on agricultural resources and other natural resources.
- Cooperate with regulatory agencies to develop acceptable specific design and construction standards for stream crossings, including (i.e., not limited to) maintaining open surface (bridged versus closed culvert) crossings, infrastructure setbacks, erosion control measures, sediment-controlling excavation/fill practices, and other best management practices.
- Fully line tunnels with impermeable material to prevent infiltration of groundwater or surface waters to the extent possible based on available geologic information and previous tunneling projects in proximity to proposed tunnels.
- Where there is potential for significant barrier effects that could divide wildlife populations or habitat areas or impede wildlife migration corridors, underpasses or overpasses or appropriate passageways will be designed during project-level environmental review for implementation at reasonable intervals during construction to avoid, minimize, or mitigate potential impacts on wildlife movement.
- The potential impacts associated with construction access roads would be greatly limited, and avoided altogether through sensitive areas (as defined at the project level), by using in-line

construction (i.e., by using the new rail infrastructure as it is built to transport equipment to and from the construction site and transporting excavated materials away from the construction area to appropriate reuse [e.g., as fill material, aggregate for new concrete] or disposal sites). To avoid creating access roads in sensitive areas (as defined at the project level), necessary geologic exploration would be conducted using helicopter transport for drilling equipment to minimize surface disruption, followed by site restoration on the completion of work.

1.5.5 Mitigation Strategies

The Program EIR/EIS identifies general mitigation *strategies* that the Authority and the FRA will consider and refine into specific mitigation *measures* in future project-level environmental documents. This approach is consistent with the concept of tiering. Where, as here, a lead agency is analyzing the environmental impacts of a broad decision at a landscape level, it would be premature to develop precise mitigation *measures*, which will need to be tailored to the type of "on the ground" impacts anticipated for constructing or operating specific portions of the HST system.

The mitigation strategies, along with project design practices (noted in Section 1.5.4 of this report) lay out actions that will be taken to avoid or reduce identified impacts. The strategies were identified to avoid or minimize significant adverse environmental effects. The mitigation strategies identified have been applied to projects throughout the State, country, Europe, and Japan and have been shown to be effective, which is in fact the reason they are included in the Program EIR/EIS. The adopted strategies will be enforceable and capable of being accomplished in a successful manner within a reasonable period of time. As part of the approval of the project and certification of the Program EIR, these strategies are included in the mitigation monitoring and reporting plan (MMRP) to be adopted by the Authority Board. Likewise the MMRP will be incorporated in the Record of Decision issued by the FRA. Once adopted, the MMRP will be enforceable under CEQA, committing the Authority to these strategies.

Detailed site-specific mitigation measures can and will be defined during the project-level EIR/EIS phase, following more detailed preliminary engineering and field reviews focused on the alternative selected at the program level. The mitigation strategies will be used to develop appropriate mitigation measures to address site-specific impacts identified at the project level.

For instance, use of noise walls is a mitigation strategy for noise impacts. The appropriate locations, lengths, height, and design of these walls will be defined during the preliminary engineering and project-level environmental review, when detailed field studies are performed. This example applies to all mitigation strategies in the Program EIR/EIS, and is fully consistent with typical project planning and the environmental review requirements. Mitigation measures are refined as the planning and engineering progress from the conceptual to preliminary to final project design phases. For example, the exact location, length, and materials used for noise walls may change even between preliminary and final design.

As the planning and engineering process progresses, and as project elements are more precisely defined, further review of project impacts occurs to assure that impacts are still being mitigated to the extent feasible and that no new significant impacts are introduced. Environmental laws and implementing requirements prescribe the procedures to be followed should new significant impacts be revealed.

1.5.6 Network Alternatives Evaluated in the Program EIR/EIS

To review and evaluate a HST system in the study region as a part of a statewide system, HST Network Alternatives were identified representing different ways to combine the HST Alignment Alternatives and station location options provided in Section 1.5.3 of this report. Several operating scenarios for combinations of alignment alternatives and terminus stations were investigated, with HST Network Alternatives ranging from one to three termini (San Francisco, Oakland, and San Jose) for direct HST service to the Bay Area. The representative network alternatives are grouped into three basic

approaches for linking the Bay Area and Central Valley: Altamont Pass (11 network alternatives), Pacheco Pass (6 network alternatives), and Pacheco Pass with Altamont Pass (local service) (4 network alternatives).

The network alternatives were developed to enable an evaluation and comparison of how various combinations of alignment alternatives would meet the project's purpose and need and how each would perform as an HST network (e.g., travel times between various station locations, anticipated ridership, operating and maintenance costs, energy consumption, and auto trip diversions). Representative network alternatives are shown in Table 3. Maps of and extensive summary data about the network alternatives are presented in Chapter 7 of the Program EIR/EIS, and important differences are identified to inform decision makers and the public in the Summary of the Program EIR/EIS.

Table 3. Summary Table of Representative High-Speed Train Network Alternatives

Network Alternative	Alignment Included
Altamont Pass	
San Francisco and San Jose Termini	• Caltrain Corridor (San Francisco to Dumbarton) • Dumbarton (High Bridge)[1] • Niles/I-880 (Niles Junction to San Jose via I-880)[2] • East Bay Connection (Dumbarton/Niles XS) • UPRR (Niles to Altamont) • Tracy Downtown (UPRR Connection) • UPRR (Central Valley)
Oakland and San Jose Termini	• Niles /I-880(West Oakland to Niles Junction) • Niles /I-880 (Niles Junction to San Jose via I-880)[2] • East Bay Connections (Dumbarton/Niles XN and Dumbarton/Niles XS) • UPRR (Niles to Altamont) • Tracy Downtown (UPRR Connection) • UPRR (Central Valley)
San Francisco, Oakland, and San Jose Termini	• Caltrain Corridor (San Francisco to Dumbarton) • Dumbarton (High Bridge)[1] • Niles /I-880(West Oakland to Niles Junction) • Niles /I-880 (Niles Junction to San Jose via I-880)[2] • East Bay Connections (Dumbarton/Niles XN and Dumbarton/Niles XS) • UPRR (Niles to Altamont) • Tracy Downtown (UPRR Connection) • UPRR (Central Valley)
San Jose Terminus	• Niles /I-880 (Niles Junction to San Jose via I-880) [2] • East Bay Connection (Dumbarton/Niles XS) • UPRR (Niles to Altamont) • Tracy Downtown (UPRR Connection) • UPRR (Central Valley)
San Francisco Terminus	• Caltrain Corridor (San Francisco to Dumbarton) • Dumbarton (High Bridge)[1] • UPRR (Niles to Altamont) • Tracy Downtown (UPRR Connection) • UPRR (Central Valley)
Oakland Terminus	• Niles /I-880(West Oakland to Niles Junction) • East Bay Connection (Dumbarton/Niles XN) • UPRR (Niles to Altamont) • Tracy Downtown (UPRR Connection) • UPRR (Central Valley)

Network Alternative	Alignment Included
Union City Terminus	• Niles /I-880(Union City BART to Niles Junction) • East Bay Connection (Dumbarton/Niles XN) • UPRR (Niles to Altamont) • Tracy Downtown (UPRR Connection) • UPRR (Central Valley)
San Francisco and San Jose – via SF Peninsula	• Caltrain Corridor (San Francisco to Dumbarton) • Caltrain (Dumbarton to San Jose) • Dumbarton (High Bridge) • UPRR (Niles to Altamont) • Tracy Downtown (UPRR Connection) • UPRR (Central Valley)
San Francisco, San Jose, and Oakland – with no San Francisco Bay Crossing	• Caltrain Corridor (San Francisco to Dumbarton) • Caltrain (Dumbarton to San Jose) • Niles /I-880(West Oakland to Niles Junction) • Niles /I-880 (Niles Junction to San Jose via I-880)[2] • East Bay Connections (Dumbarton/Niles XN and Dumbarton/Niles XS) • UPRR (Niles to Altamont) • Tracy Downtown (UPRR Connection) • UPRR (Central Valley)
Oakland and San Francisco – via Transbay Tube	• Transbay Crossing – Transbay Transit Center • Niles /I-880(West Oakland to Niles Junction) • East Bay Connection (Dumbarton/Niles XN) • UPRR (Niles to Altamont) • Tracy Downtown (UPRR Connection) • UPRR (Central Valley)
San Jose, Oakland, and San Francisco – via Transbay Tube	• Transbay Crossing – Transbay Transit Center • Niles /I-880(West Oakland to Niles Junction) • Niles /I-880 (Niles Junction to San Jose via I-880)[2] • East Bay Connections (Dumbarton/Niles XN and Dumbarton/Niles XS) • UPRR (Niles to Altamont) • Tracy Downtown (UPRR Connection) • UPRR (Central Valley)
Pacheco Pass	
San Francisco and San Jose Termini	• Caltrain Corridor (San Francisco to Dumbarton) • Caltrain (Dumbarton to San Jose) • Pacheco (San Jose to Western Valley) • Henry Miller (Western Valley to BNSF/UPRR) • Henry Miller UPRR Connection • BNSF – UPRR
Oakland and San Jose Termini	• Niles /I-880(West Oakland to Niles Junction) • Niles /I-880 (Niles Junction to San Jose via I-880) • Pacheco (San Jose to Western Valley) • Henry Miller (Western Valley to BNSF/UPRR) • Henry Miller UPRR Connection • BNSF – UPRR

San Francisco, Oakland, and San Jose Termini	• Caltrain Corridor (San Francisco to Dumbarton) • Caltrain (Dumbarton to San Jose) • Niles /I-880(West Oakland to Niles Junction) • Niles /I-880 (Niles Junction to San Jose via I-880) • Pacheco (San Jose to Western Valley) • Henry Miller (Western Valley to BNSF/UPRR) • Henry Miller UPRR Connection • BNSF – UPRR
San Jose Terminus	• Pacheco (San Jose to Western Valley) • Henry Miller (Western Valley to BNSF/UPRR) • Henry Miller UPRR Connection • BNSF – UPRR
San Jose, San Francisco, and Oakland – via Transbay Tube	• Transbay Crossing – Transbay Transit Center • Caltrain Corridor (San Francisco to Dumbarton) • Caltrain (Dumbarton to San Jose) • Pacheco (San Jose to Western Valley) • Henry Miller (Western Valley to BNSF/UPRR) • Henry Miller UPRR Connection • BNSF – UPRR
San Jose, Oakland, and San Francisco – via Transbay Tube	• Transbay Crossing – Transbay Transit Center • Niles /I-880(West Oakland to Niles Junction) • Niles /I-880 (Niles Junction to San Jose via I-880) • Pacheco (San Jose to Western Valley) • Henry Miller (Western Valley to BNSF/UPRR) • Henry Miller UPRR Connection • BNSF – UPRR
Pacheco Pass with Altamont Pass (Local Service)	
San Francisco and San Jose Termini	• Caltrain Corridor (San Francisco to Dumbarton) • Caltrain (Dumbarton to San Jose) • Dumbarton (High Bridge) • UPRR (Niles to Altamont)[3] • Tracy Downtown (UPRR Connection)[4] • UPRR (Central Valley) • Pacheco (San Jose to Western Valley) • Henry Miller (Western Valley to BNSF/UPRR) • Henry Miller UPRR Connection
Oakland and San Jose Termini	• Niles /I-880(West Oakland to Niles Junction) • Niles /I-880 (Niles Junction to San Jose via I-880) • East Bay Connections (Dumbarton/Niles XN & Dumbarton/Niles XS) • UPRR (Niles to Altamont)[3] • Tracy Downtown (UPRR Connection)[4] • UPRR (Central Valley) • Pacheco (San Jose to Western Valley) • Henry Miller (Western Valley to BNSF/UPRR) • Henry Miller UPRR Connection

San Francisco, Oakland, and San Jose Termini (without Dumbarton Bridge)	• Caltrain Corridor (San Francisco to Dumbarton) • Caltrain (Dumbarton to San Jose) • Niles /I-880(West Oakland to Niles Junction) • Niles /I-880 (Niles Junction to San Jose via I-880) • East Bay Connections (Dumbarton/Niles XN and Dumbarton/Niles XS) • UPRR (Niles to Altamont)[3] • Tracy Downtown (UPRR Connection)[4] • UPRR (Central Valley) • Pacheco (San Jose to Western Valley) • Henry Miller (Western Valley to BNSF/UPRR) • Henry Miller UPRR Connection
San Jose Terminus	• Niles /I-880 (Niles Junction to San Jose via I-880) [2] • East Bay Connection (Dumbarton/Niles XS) • UPRR (Niles to Altamont)[3] • Tracy Downtown (UPRR Connection)[4] • UPRR (Central Valley) • Pacheco (San Jose to Western Valley) • Henry Miller (Western Valley to BNSF/UPRR) • Henry Miller UPRR Connection
1 Does not include Dumbarton Wye South to Caltrain segment. 2 Does not include Niles Junction to Niles Wye South (Niles/I-880 5A) segment. 3 Does not include “express tracks” through Pleasanton station. 4 Does not include “express tracks” through Tracy station.	

C. SUMMARY COMPARISON OF NETWORK ALTERNATIVES

Table 4 presents the characteristics and potential impacts for the 21 representative network alternatives. The impact quantities provided are prior to any mitigation. A more extensive presentation of characteristics and potential impacts is provided in Chapter 7 of the Program EIR/EIS.

In addition, the network alternatives have the potential to reduce overall air pollution, total energy consumption, and traffic congestion as compared to the No Project Alternative. Comparing the energy required by each mode to carry a passenger 1 mile (1.6 km), an HST needs only about one-third that required by an airplane and one-fifth that required by a commuter automobile trip. Comparing the pollutant burden generated by each mode to carry a passenger 1 mile (1.6 km), an HST generates approximately less than one-tenth of the pollutants (excluding CO_2) that would be generated by an airplane or by a commuter automobile trip. The representative base HST forecast would result in a reduction of 5.8 million barrels of oil and 3.4 million tons (6.8 billion pounds) of CO_2 emissions annually by 2030, as compared to the No Project Alternative. Diversions from the automobile to HST could lead to a projected 2.3% statewide reduction in vehicle miles traveled (VMT on the highway system), with VMT reductions of 1.75% and 8% in Bay Area and Central Valley counties for all of the network alternatives.

1.6 Preferred Alignment and Station Locations

The different system characteristics, as well as environmental factors of the network alternatives, present complex choices. Informed by public review and comment on the Draft Program EIR/EIS, the Authority prepared an evaluation for consideration by the Authority board after the public comment period. Chapter 8 of the Final Program EIR/EIS describes the preferred HST Network and Alignment Alternatives and station options as well as the evaluation of Network Alternatives that supported the identification of the preferred alternative, shown in Figure 5. This information is also summarized in the Summary

chapter of the Final Program EIR/EIS. The preferred HST Alignment and Station location options are described below.

1.6.1 San Francisco to San Jose: Caltrain Corridor (Shared Use)

The Program EIR/EIS analyzes one alignment option between San Francisco and San Jose along the San Francisco Peninsula that would utilize the Caltrain rail right-of-way and share tracks with express Caltrain commuter rail services.

Table 4: Continued

Characteristic/Impacts	Altamont Pass											Pacheco Pass						Pacheco Pass with Altamont Pass (local service)			
	San Francisco & San Jose Termini	Oakland & San Jose Termini	San Francisco, Oakland & San Jose Termini	San Jose Terminus	San Francisco Terminus	Oakland Terminus	Union City Terminus	San Francisco & San Jose — via SF Peninsula	San Francisco, San Jose, Oakland – no Bay Crossing	Oakland & San Francisco – via Transbay Tube	San Jose, Oakland, & San Francisco via Transbay Tube	San Francisco & San Jose Termini	Oakland & San Jose Termini	San Francisco, Oakland, & San Jose Termini	San Jose Terminus	San Jose, San Francisco & Oakland- via Transbay Tube	San Jose, Oakland & San Francisco- via Transbay Tube	San Francisco & San Jose Termini	Oakland & San Jose Termini	SF, Oak, & SJ Termini (without Dumbarton Bridge)	San Jose Terminus
Union City - Sacramento	—	—	—	—	—	—	0.43	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Farmland (acres)	764.2	761.9	764.2	761.9	757.8	755.5	755.5	757.8	761.9	755.5	761.9	1,372.3	1,378.7	1,378.7	1,372.3	1,372.3	1,378.7	1,380.0	1,384.1	1,384.1	1,384.1
Prime farmland (acres)	429.1	426.8	429.1	426.8	422.7	420.3	420.3	422.7	426.8	420.3	426.8	663.3	669.7	669.7	663.3	663.3	669.7	760.4	764.5	764.5	764.5
Floodplains (acres) direct impacts (direct/indirect)	308.3/ 969	218.6/ 720	315.3/ 984	211.6/ 706	270.7/ 817	181.1/ 568	177.6/ 561	317.7/ 891	314.5/ 896	181.1/ 568	218.6/ 720	520.8/ 1,633	477.5/ 1,639	573.4/ 1,814	424.9/ 1,458	520.8/ 1,633	477.5/ 1,685	547.1/ 3,411	456.4/ 1,633	552.2/ 1,685	432.2/ 1,479
Floodplains/linear mile of alignment	1.52	1.20	1.31	1.32	1.41	1.06	1.12	1.49	1.29	1.01	1.10	1.95	1.86	1.85	1.99	1.88	1.80	1.61	1.43	1.53	1.51
Streams (linear feet) (direct/indirect)	16,824/ 71,320	17,660/ 76,905	19,814/ 82,951	14,670/ 65,274	15,995/ 67,867	16,831/ 72,451	14,432/ 65,198	17,481/ 70,714	20,273/ 82,171	16,831/ 73,451	17,660/ 76,905	20,276/ 90,572	21,788/ 99,406	24,401/ 104,672	17,663/ 85,306	20,276/ 90,572	30,278/ 137,768	27,130/ 125,490	27,666/ 132,501	30,278/ 137,768	24,197/ 120,049
Waterbodies (lakes + SF bay) (acres) (direct/indirect)	39.6/ 154.9	2.3/ 7.6	39.6/ 154.9	2.3/ 7.6	39.6/ 154.9	2.3/ 7.6	2.3/ 7.6	39.6/ 154.9	2.3/ 11	38.8/ 243.1	38.8/ 243.1	3.8/ 19.7	4.5/ 17.6	4.5/ 21	3.8/ 16.3	40.3/ 255.2	41/ 253.1	41.9/ 164.9	5.3/ 18.92	5.3/ 22.3	4.6/ 17.6
Wetlands (acres) (direct/indirect)	45.9/ 2,526	12.3/ 805	46.3/ 2,594	12.0/ 737	44.4/ 2,259	10.8/ 539	10.7/ 499	44.4/ 2,264	12.4/ 957	33.6/ 1,892	35.1/ 2,158	15.6/ 1,601	17.4/ 1,825	17.5/ 1,977	15.5/ 1,449	38.4/ 2,955	40.2/ 3,179	56.1/ 3,499	25.3/ 2,180	25.4/ 2,332	23.7/ 1,972
Nonwetland waters (linear feet)	16,773	14,032	16,932	13,577	15,947	13,502	13,113	15,947	14,662	13,502	14,032	14,395	14,533	15,123	14,395	14,395	14,553	19,891	17,977	18,556	17,521
Species (special status plants)	56	40	57	39	56	39	38	56	56	40	42	58	49	63	46	59	50	70	67	71	54
Species (special status wildlife)	50	44	50	43	49	44	36	49	50	43	43	53	49	53	38	53	49	57	51	58	50
Cultural resources (number)	151	128	175	93	146	112	88	182	205	114	119	167	106	195	78	108	111	198	133	222	109
Fault Crossings (Active & Potentially Active)	11	7	13	6	9	5	4	10	9	5	7	5	6	8	3	5	6	13	10	12	9
Crosses Active Fault in Tunnel (Calaveras)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	Yes	Yes	Yes	Yes
Immediately Adjacent & Parallel to Active Fault (Hayward)	No	Yes	Yes	No	No	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Yes	Yes	No
4(f)/6(f) Resources (0-150 feet)	32	29	39	22	24	21	18	30	39	22	30	18	21	31	8	19	22	35	36	46	27

Table 4: Continued

Characteristic/Impacts	Altamont Pass											Pacheco Pass						Pacheco Pass with Altamont Pass (local service)			
	San Francisco & San Jose Termini	Oakland & San Jose Termini	San Francisco, Oakland & San Jose Termini	San Jose Terminus	San Francisco Terminus	Oakland Terminus	Union City Terminus	San Francisco & San Jose – via SF Peninsula	San Francisco, San Jose, Oakland – no Bay Crossing	Oakland & San Francisco – via Transbay Tube	San Jose, Oakland, & San Francisco via Transbay Tube	San Francisco & San Jose Termini	Oakland & San Jose Termini	San Francisco, Oakland, & San Jose Termini	San Jose Terminus	San Jose, San Francisco & Oakland- via Transbay Tube	San Jose, Oakland & San Francisco- via Transbay Tube	San Francisco & San Jose Termini	Oakland & San Jose Termini	SF, Oak, & SJ Termini (without Dumbarton Bridge)	San Jose Terminus
Station Location Options																					
Transbay Transit Center	■		■		■			■	■	■	■	■		■		■	■	■		■	
Millbrae/SFO	■		■		■			■	■			■		■		■		■		■	
Redwood City (Caltrain)	■		■		■				■							■					
Palo Alto (Caltrain)								■				■		■				■		■	
West Oakland/7th Street		■	■			■			■	■	■		■	■		■	■		■	■	
Coliseum/Airport		■	■			■			■	■	■		■	■			■		■	■	
Union City (BART)		■	■			■	■		■	■	■		■	■			■		■	■	
Union City (Shinn)					■			■													
Fremont (Warm Springs)	■			■														■			■
San Jose (Diridon)	■	■	■	■				■	■		■	■	■	■	■	■	■	■	■	■	■
Gilroy (Caltrain)												■	■	■	■	■	■	■	■	■	■
Pleasanton (I-680/Bernal Rd)	■	■	■	■	■	■	■	■	■	■	■							■	■	■	■
Tracy (Downtown)	■	■	■	■	■	■	■	■	■	■	■							■	■	■	■
Modesto (Downtown)	■	■	■	■	■	■	■	■	■	■	■							■	■	■	■
Briggsmore (Amtrak)												■	■	■	■	■	■				
Merced (Downtown)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Notes
■ indicates stations served

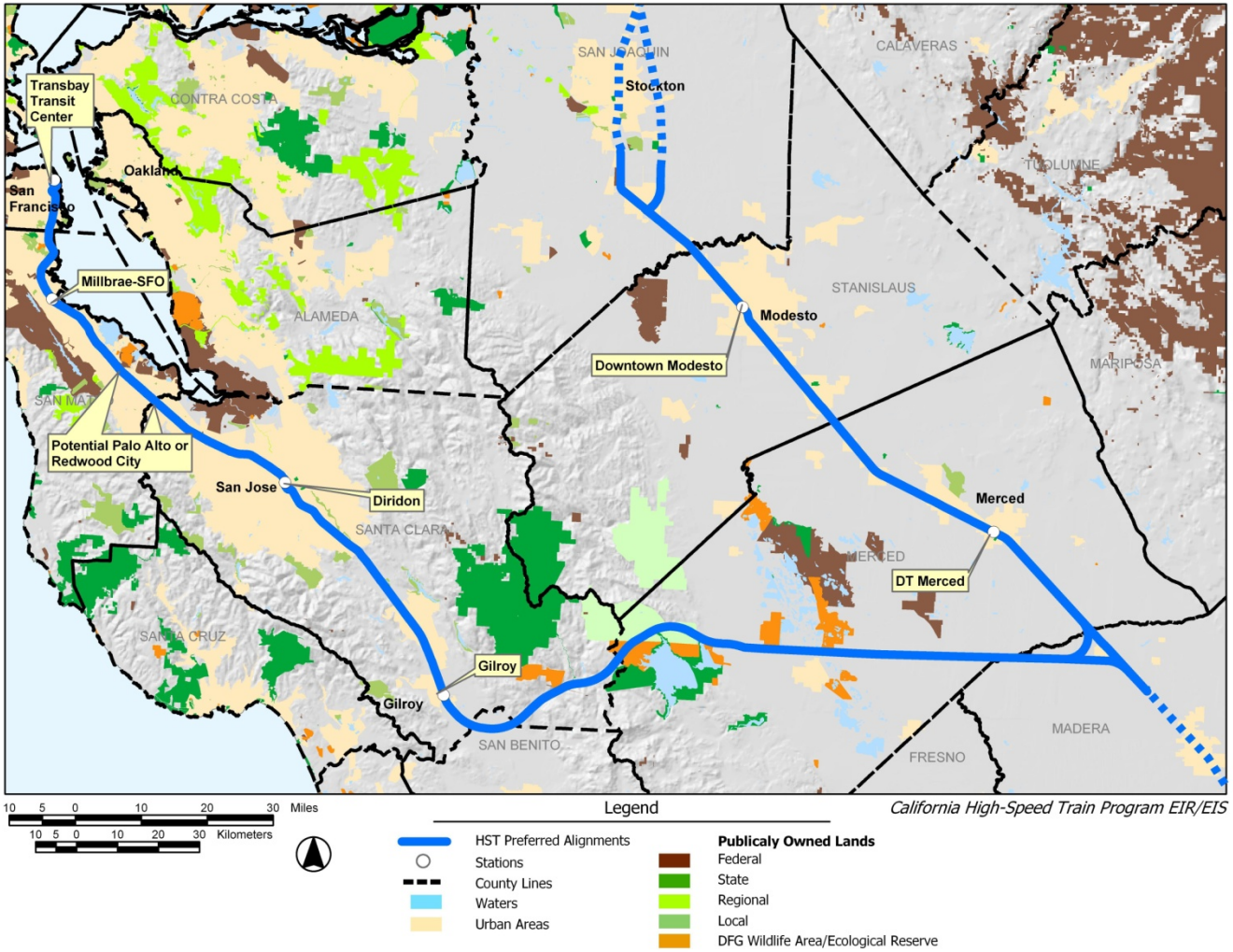

Figure 5. Preferred Alternative Identified in the Final Program EIR/EIS

A. PREFERRED STATION LOCATIONS

- Downtown San Francisco Terminus: Transbay Transit Center
- The Transbay Transit Center would offer the greatest connectivity and accessibility to San Francisco and the Bay Area, best serve as a regional transit hub, and have the highest ridership potential. It also has considerable agency and public support
- San Francisco Airport Connector Station: Millbrae (SFO)
- The Millbrae (SFO) HST station supports the objectives of the HST project by providing an interface with the northern California hub airport for national and international flights.
- Mid-Peninsula Station: Continue to investigate both potential sites and work with local agencies and the Caltrain JPB to determine whether a mid-peninsula station site should be developed.
- The Palo Alto and Redwood City station options would both be multi-modal stations, with similar costs, construction issues, right-of-way issues, and potential environmental impacts. The Palo Alto station option would have somewhat better connectivity and higher ridership, while the Redwood City site is supported by the City of Redwood City.

1.6.2 San Jose to Central Valley

Pacheco Pass via Henry Miller Road (UPRR Connection) is the preferred alternative. At the project level, however, the Authority and the FRA will continue to seek and evaluate alignment alternatives utilizing the Pacheco Pass that would minimize or avoid impacts on resources in the GEA.

The Final Program EIR/EIS describes that, in addition to other mitigation strategies and measures, the Authority commits to the acquisition from willing sellers by the Authority, or by other entities designated and supported by the Authority, of agricultural, conservation and/or open space easements encompassing at least 10,000 ac (4,047 ha) and generally located along or in the vicinity of the HST alignment and within or adjacent to the designated GEA. This measure would reduce impacts to and support conservation of wetlands and sensitive ecological areas, as well as limit urban encroachment in the vicinity of the HST through the GEA. The focus for these easements would be in areas undergoing development pressures, such as the areas around Los Banos and Volta, and/or areas that would be most appropriate for ecological conservation or restoration. The eventual locations and total acreage for these easements would be determined in conjunction with the project-level environmental analysis and decisions addressing the Gilroy to Merced portion of the HST system and in consultation with the CDFG, the USFWS, and the Grassland Water District. To further minimize impacts to wetlands, sensitive habitat, and wildlife movement, about 3-miles of the alignment along Henry Miller Road would be elevated.

In addition, the Authority has identified the following mitigation strategies that can be refined and applied at the project-specific level and will avoid or reduce impacts to agricultural lands:

- Avoid farmland whenever feasible during the conceptual design stage of the project.
- Reduce the potential for impacts by sharing existing rail rights-of-way where feasible or by aligning HST features immediately adjacent to existing rail rights-of-way.
- Reduce the potential for impacts by reducing the HST right-of-way width to 50 feet in constrained areas.
- Coordinate with private agricultural land trusts, local programs, mitigation banks, and Resource Conservation Districts to identify additional measures to limit important farmland conversion or provide further protection to existing important farmland.
- The Authority, or other entities designated and supported by the Authority will acquire, from willing sellers, agricultural conservation easements encompassing at least 3,500 acres of

important farmland (as defined by the FMMP). The eventual locations and total acreage for these easements would be determined in consultation with the California Department of Conservation, and others, and in conjunction with project-level decisions of the HST system.

The Authority and FRA also reaffirm their statewide program EIR/EIS decision that there will be no HST stations between Gilroy and Merced. In addition, the Preferred Alternative does not include a maintenance facility between Gilroy and Merced.

The Pacheco Pass via Henry Miller alternative would provide slightly higher ridership potential, provide the fastest travel times and the most direct link between the Bay Area and southern California, and would generally parallel an existing roadway corridor through the environmentally sensitive areas that cross from the Bay Area to the Central Valley, minimizing potential severance and other environmental impacts as compared to the Pacheco via GEA North alternative.

A. PREFERRED STATION LOCATIONS

- Downtown San Jose Terminus: Diridon Station

  Diridon Station is a multi-modal hub that maximizes connectivity to downtown San Jose, San Jose International Airport, and the southern Bay Area; would have high ridership potential; and is favored by the City of San Jose and the VTA.

- Southern Santa Clara County: Gilroy Station (Caltrain)

  Gilroy (Caltrain) station is the preferred HST station to serve southern Santa Clara County and the Monterey Bay Area. This station would provide the highest accessibility and connectivity for these regions and would have the highest ridership potential.

1.6.3 Central Valley Alignment

UPRR N/S Alternative is the preferred alternative. However, at the project-level, the Authority would continue to evaluate the BNSF Alternative because of the uncertainty of negotiating with the UPRR for use of some of its right-of-way and would continue investigation of alignments/linkages to a potential maintenance facility at Castle AFB.

The UPRR alternative would have high potential ridership, would serve potential downtown station sites at Modesto and Merced providing the highest connectivity and accessibility for this part of the Central Valley, and would best meet the Authority's adopted transit-oriented development criteria for station locations.

A. PREFERRED STATION LOCATIONS

- Modesto: Downtown Modesto

  The downtown Modesto station is the preferred HST station for Modesto because it maximizes connectivity and accessibility to downtown Modesto and would best meet the Authority's adopted transit-oriented development criteria for station locations by serving the downtown of this Central Valley city.

- Merced: Downtown Merced

  The downtown Merced station is the preferred HST station for the Merced area because it maximizes connectivity and accessibility to downtown Merced and would best meet the Authority's adopted transit-oriented development criteria for station locations by serving the downtown of this Central Valley city.

Maintenance Facilities

There is strong agency and public support in the Merced region for a maintenance facility at Castle AFB, whereas the West Oakland site would not serve the preferred Pacheco Pass alternative. The Castle AFB location is being identified for further study along with other potential locations. The number needed and potential locations for maintenance facilities will be studied at the project level when more detailed information is available on system design and alignment placement.

1.6.4 Critical Factors for Identification of the Preferred Alternative

The Pacheco Pass alternative serving San Francisco and San Jose termini best meets the purpose and need for the proposed HST system. Key reasons include:

A. THE PACHECO PASS MINIMIZES IMPACTS ON WETLANDS, WATERBODIES, AND THE ENVIRONMENT

The statewide HST system should provide direct service to northern California's major hub airport at SFO and major transit, business, and tourism center at downtown San Francisco. The Pacheco Pass alternative serving San Francisco and San Jose termini has the least potential environmental impacts overall while providing direct HST service to downtown San Francisco, SFO, and the San Francisco Peninsula (Caltrain Corridor) and minimizes construction and logistical issues, which can lead to delay and cost escalation.

The Pacheco Pass alternatives enable San Francisco, SFO, and the San Francisco Peninsula to be directly served without a crossing of the San Francisco Bay.

Altamont Pass alternatives requiring a San Francisco Bay crossing would have the greatest potential impacts on the San Francisco Bay and have high capital costs and constructability issues. The Altamont Pass network alternatives that require an elevated Bay crossing or a tunnel along the Dumbarton corridor to serve San Francisco would have even greater potential environmental impacts. These alternatives would also impact the nationally recognized Don Edwards San Francisco Bay National Wildlife Refuge. The network alternatives crossing at this location would result in more than 39 acres of potential direct impacts on the Bay and other waterbodies and up to 46.3 acres of potential direct impacts on wetlands, 73% occurring within the area of the Bay. The Altamont Pass network alternatives that require a new transbay tube to serve San Francisco would have significant potential environmental impacts on aquatic and sensitive resources, considerable construction issues and very high and unpredictable costs. These alternatives would have over 38 acres of potential direct impacts on the San Francisco Bay and other waterbodies and more than 33 acres of potential direct impacts on wetlands, 70% of that occurring within the area of the Bay.

For any alternatives that include a new Bay crossing, extensive coordination would be required with the USACE under section 10 of the Rivers and Harbors Act, the USFWS, and the California Coastal Commission. Proposed facilities crossing the Bay would also be subject to the USACE, CDFG, and BCDC permit processes and approval would be time consuming and uncertain.

The Pacheco Pass with Altamont Pass (local service) would have greater environmental impacts, construction issues and logistical constraints in general than either Altamont or Pacheco due to the sheer increase in size of the HST system. The USEPA concluded that the Pacheco Pass with Altamont Pass (local service) network alternatives is not likely to contain the LEDPA, an important Clean Water Act requirement.

A number of agencies, organizations, and individuals have raised concerns during the public review period of the Draft Program EIR/EIS regarding to the construction of a HST crossing of the San Francisco Bay. These include the MTC; San Francisco Bay Conservation and Development Commission (BCDC; U.S. Environmental Protection Agency (USEPA); USFWS; Don Edwards San

Francisco Bay National Wildlife Refuge; Congress members Zoe Lofgren, Michael Honda, Anna Eshoo, and Tom Lantos; State Senators Elaine Alquist and Abel Maldanado; Assembly member Jim Beale; Santa Clara County; SamTrans TA; Caltrain JPB; San Francisco Bay Trail Project; San Jose Chamber of Commerce; San Francisco Bay Trail Project; the City of San Jose; the City of Oakland; and Don Edwards (Member of Congress, 1963–1995).

The East Bay Regional Park District has raised concerns in regards to potential impacts on nine regional parks, in particular the Pleasanton Ridge and Vargas Plateau regional parks, and the Alameda Creek Regional Train between Pleasanton and Niles Junction for Altamont Pass alternatives. In addition, the City of Fremont opposes the Altamont Pass, and the City of Pleasanton does not support the Altamont Pass but remains "open" to terminating Altamont alternatives in Livermore. The MTC and Alameda County Supervisor Scott Haggerty also support the investigation of Altamont Pass alternatives terminating in Livermore.

While a considerable number of comments have raised concerns about potential environmental impacts for Pacheco Pass alternatives (in particular relating to potential impacts on the GEA), HST via the Pacheco Pass is feasible and preferred because it would result overall in fewer impacts when compared to the Altamont Pass alternatives with a Bay crossing. Additionally, the Pacheco Pass alternative would include various measures to avoid, minimize, and/or mitigate those environmental impacts to the extent feasible and would offer opportunities for environmental improvements along the HST right-of-way that could be accomplished during project design, construction, and operation, including through the use of tunnels and aerial structures where appropriate. As noted above, the Final Program EIR/EIS commits to the acquisition from willing sellers of agricultural, conservation and/or open space easements encompassing at least 10,000 ac (4,047 ha) and generally located along or in the vicinity of the HST alignment and within or adjacent to the designated GEA.

This contrasts with the more uncertain regulatory approvals that would be needed for crossings of San Francisco Bay and the Don Edwards San Francisco Bay National Wildlife Refuge. Identification of a preferred alternative in the Final Program EIR/EIS is required for NEPA compliance. Since the identified preferred alternative would have the least overall environmental impacts, it is also identified as the environmentally superior alternative for CEQA compliance and the environmentally preferable alternative under NEPA.

B. THE PACHECO PASS BEST SERVES THE CONNECTION BETWEEN THE NORTHERN AND SOUTHERN CALIFORNIA

Operational Benefits Result in Greater Frequency and Capacity

San Francisco and San Jose would be served with one HST alignment along the Caltrain Corridor, providing the most frequent service to these destinations, whereas the most promising Altamont Pass alternatives would split HST services (express, suburban express, skip-stop, local, regional) between two branch lines to serve San Jose and either San Francisco or Oakland—reducing the total capacity of the system to these markets. The proposed HST system already has two locations where there are branch splits (north of Fresno—to Sacramento and the Bay Area, and south of Los Angeles Union Station—to Orange County and the Inland Empire). Avoiding additional branch splits in the HST alignment would benefit train operations and service.

Provides a Superior Connection between the South Bay and Southern California

The Pacheco Pass enables the shortest connection to be constructed between the South Bay and southern California with the quickest travel times between these markets. A southern Santa Clara County HST station increases connectivity and accessibility for the South Bay and the three county Monterey Bay area.

Fewer Stations between the Major Metropolitan Areas

The core purpose of the HST system is to serve passenger trips between the major metropolitan areas of California. There is a critical tradeoff between the accessibility of the system to potential passengers that is provided by multiple stations and stops, and the resulting HST travel times. Additional or more closely spaced stations (even with limited service) would lengthen travel times and reduce frequency of service and the ability to operate both express and local services. The Pacheco Pass has the advantage of fewer stops through the high-speed trunk of the system between San Francisco or San Jose and southern California, the most populated regions of the state.

Between Merced and Gilroy, the HSTs will be maintaining speeds well over 200 mph. The fact that there is no population concentrations between Merced and Gilroy along the Pacheco Pass is a positive attribute since there are fewer communities and hence fewer community impacts. Additionally, there will be no HST station between Gilroy and Merced. As a result, the Pacheco Pass minimizes the potential for sprawl inducement as compared with the Altamont Pass.

Minimizes Logistical Constraints

The Pacheco Pass avoids construction issues and logistical constraints through the Tri-Valley and Alameda County. The Tri-Valley PAC has raised serious concerns with all the Altamont Pass alternatives regarding land use compatibility and right-of-way constraints and the need for aerial structures through the Tri-Valley. All Altamont Pass alternatives have tunneling/seismic issues (Calaveras Fault) in the Pleasanton Ridge/Niles Canyon area as well as seismic issues in the East Bay (Hayward Fault). Both the City of Fremont and the City of Pleasanton are opposed to HST alternatives through these cities because of potential environmental issues, right-of-way constraints, and other logistical issues.

C. THE PACHECO PASS BEST UTILIZES THE CALTRAIN CORRIDOR.

The Pacheco Pass alternative would enable the early, incremental implementation of the entire Caltrain Corridor section between San Francisco, San Jose, and Gilroy. The HST system is complementary to Caltrain and would utilize the Caltrain right-of-way and share tracks with express Caltrain commuter rail services. Caltrain intends to use lightweight, electrified trains that would be compatible with HST equipment. Because it utilizes the Caltrain corridor, environmental impacts would be minimized. Utilizing the Caltrain Corridor (between San Francisco and San Jose) allows the Authority to maximize the use of local and regional funds dedicated to train service improvements, thereby helping to reduce the need for state funds.

D. THE PACHECO PASS IS STRONGLY SUPPORTED BY THE BAY AREA REGION, CITIES, AGENCIES, AND ORGANIZATIONS.

Much of the Bay Area local and regional governments, transportation agencies, and business organizations strongly support the Pacheco Pass alternative to San Francisco via San Jose and the Caltrain Corridor. There is strong local and regional government support along the Pacheco Pass alignment throughout the Bay Area. Pacheco Pass supporters include the MTC; the Cities of San Francisco, San Jose, Redwood City, Fremont, Morgan Hill, Cupertino, Sunnyvale, Gilroy, and Salinas; the Counties of San Francisco, Santa Clara, San Mateo, and Monterey; Congress members Lofgren, Honda, Eshoo, and Lantos; Assembly member Beale; State Senators Alquist and Maldanado; the San Francisco County Transportation Agency; the Santa Clara Valley Transportation Authority (VTA); Peninsula Corridor (Caltrain) Joint Powers Board (JPB); San Mateo County Transit District (SamTrans); San Mateo County Transportation Authority (TA); Monterey County Transportation Agency; Alameda County Congestion Management Agency; Alameda County Supervisor Scott Haggerty; the San Jose, San Francisco, Redwood City, and San Mateo County Chambers of Commerce; the Silicon Valley Leadership Group; and a number of members of the public representing

themselves. This support is critical toward implementing this major infrastructure project through the heavily urbanized Bay Area linking San Francisco, San Jose, and Gilroy.

The Central Valley (including Sacramento) and many transportation and environmental organizations are united in strongly preferring the Altamont Pass. The Altamont Pass supporters include the Cities of Oakland, Union City, and Atwater; the Town of Atherton; the Counties of San Joaquin, Stanislaus, Mariposa, and Kern; the California Partnership for the San Joaquin Valley; the San Joaquin Regional Policy Council; Sacramento Area Council of Governments; San Joaquin County Council of Governments; Tulare County Association of Governments; Altamont Commuter Express (ACE California Department of Parks and Recreation; California Environmental Coalition; California State Parks Foundation (CSPF); Planning and Conservation League (PCL); Sierra Club; Grassland Water District; Grassland Resources Conservation District; Grassland Conservation, Education & Legal Defense Fund; California Outdoor Heritage Alliance; Bay Rail Alliance; Transportation Involves Everyone (TIE); San Joaquin COG Citizens Advisory Committee; Tracy Region Alliance for a Quality Community; Ducks Unlimited; Transportation Solutions Defense and Education Fund (TRANSDEF); California Rail Foundation (CRF); Defenders of Wildlife; Regional Alliance for Transit (RAFT); Citizens' Committee to Complete the Refuge; Train Riders Association of California (TRAC); and a number of members of the public representing themselves.

However, to reach the major markets in the Bay Area, the Altamont Pass alternatives must go through Alameda County, including Livermore and Pleasanton in the Tri-Valley and Fremont. The Tri-Valley PAC (a partnership that includes the Cities of Dublin, Livermore, Pleasanton, Danville, San Ramon, and Tracy along with transportation providers Livermore Amador Valley Transit Authority, ACE, and BART) has raised serious concerns regarding right-of-way constraints and the need for aerial structures through the Tri-Valley. The Tri-Valley PAC supports HST service through the Pacheco Pass and "regional overlay service provided through the Altamont pass." They believe that this option may present the best way of addressing their concerns and delivering optimal HST service to the region as a whole. The Alameda County Congestion Management Agency and Alameda County Supervisor Scott Haggerty both support the MTC recommendation for the Pacheco alignment via the San Francisco Peninsula as the main HST express line between northern and southern California while also supporting upgraded interregional services between the Bay Area—Sacramento and the San Joaquin Valley via the Altamont Pass. The City of Fremont opposes the Altamont Pass alternative as does the City of Pleasanton although Pleasanton remains "open" to terminating Altamont alternatives in Livermore. The concerns through Alameda County are significant enough that the MTC, Alameda County Congestion Management Agency, and Alameda County Supervisor Scott Haggerty have requested that "the CHSRA also evaluate an alternative in the Altamont Corridor that terminates HSR at a proposed BART Livermore station"—even with the main HST express line using the Pacheco Pass.

1.6.5 Federal Least Environmentally Damaging Practicable Alternative, NEPA Environmentally Preferable Alternative, and CEQA Environmentally Superior Alternative

The U.S. Environmental Protection Agency (USEPA) and the USACE have participated in the development of both the Draft and Final Program EIR/EIS and, in accordance with the June 12, 2006, Interagency Memorandum of Understanding among federal agencies and the Authority for the programmatic, or Tier 1, environmental review, were consulted concerning the selection of the corridor and alignments most likely to yield the LEDPA. The USEPA and USACE have concurred that the Preferred Pacheco Pass Network Alternative serving San Francisco and San Jose Termini described in Section 1.6 of this report is most likely to yield the LEDPA.

In addition, the Authority and FRA have identified the Preferred Pacheco Pass Network HST Alternative described in Section 1.6 of this report as the environmentally preferable under NEPA and environmentally superior under CEQA.

1.7 Altamont Pass/Northern San Joaquin Valley Improvements – Regional Rail

Many of the public comments received in support of the Altamont Pass during the public review period for the Draft Program EIR/EIS are related to its great potential for serving long-distance commuters between the Central Valley and the Bay Area. As indicated by the comments received by the Tri-Valley PAC, many of the negative impacts associated with construction of HST through the Tri-Valley might be considerably reduced by the elimination of the additional tracks needed for HST express services.

In acknowledgment that there is great potential for serving long-distance commuters in this corridor, and that use of the Altamont Pass may be able to provide superior HST travel times between Sacramento/Northern San Joaquin Valley and the Bay Area, the Authority is pursuing a partnership with local and regional agencies and transit providers to propose and develop a joint-use ("Regional Rail" and HST) infrastructure project in the Altamont Pass corridor – as advocated in MTC's recently approved "Regional Rail Plan for the San Francisco Bay Area." Regionally provided commuter services would require regional investment for additional infrastructure needs and potentially would need operational subsidies. The Authority cannot unilaterally plan for regionally operated commuter services.

Altamont Pass corridor joint-use rail infrastructure improvements will be pursued by the Authority with regional partners as a separate and independent "regional rail" project with a different purpose and need[7] from the proposed HST system, that would accommodate HST service as well as "regional rail" (regionally operated long-distance commuter services).

1.8 Role of the HST System in Influencing Growth

The HST system has the potential to induce growth. Indeed, results from the growth inducement analysis in Chapter 5 of the Program EIR/EIS show that the HST alternatives are projected to induce more population and employment than the No Project alternative in each analysis county. However, the results show that overall population and employment levels of the HST alternatives are on the same order of magnitude as the No Project alternative.

Sections 4.2 and 5.2 of the technical report on economic growth effects[8] provides a detailed review of growth inducing differences between the alternatives, and these differences are fully disclosed in summary fashion in Section 5.3 of the Program EIR/EIS. These discussions are based on information derived from a multi-tiered analytic process and state-of-the art economic forecasting tools.

The analysis results support the conclusions that the growth inducing effects and indirect impacts are similar between the HST and No-Project alternatives at the program level of analysis, and that the Pacheco HST alternative has less of a regional growth inducing effect than the Altamont HST alternative. Table 5.3-5 in the Final Program EIR/EIS shows that the Pacheco Pass network alternative could induce up to 1.2% population growth and 1.7% employment growth in the northern Central Valley (Sacramento County to Fresno County). The Altamont HST alternative could induce up to 1.9% population growth and 2.3% employment growth in that area. The reasons for this difference are two-fold:

- While Pacheco traverses more undeveloped land than Altamont, station location (rather than HST alignment characteristics) is the primary determinant of growth inducement. Altamont is likely to have more stations than Pacheco in the Bay Area to Central Valley corridor.

7 As defined in CEQA and NEPA implementing regulations, procedures, and guidelines.

8 Cambridge Systematics, Inc.; Economic Growth Effects Analysis for the Bay Area to Central Valley Program-Level Environmental Impact Report and Tier 1 Environmental Impact Statement – Final Report; July 2007.

- All Altamont and Pacheco network alternatives provide HST station options in the same communities throughout the Central Valley and Southern California. The only substantial difference outside of the Bay Area is that Altamont provides the opportunity for an additional HST station in Tracy, which is near other HST stations in Stockton and Modesto. Within the Bay Area, the only potential station differences are in the provision of stations in southern Santa Clara County or eastern Alameda County. While there are these minor differences, regional access to an HST station is relatively equal when similar Altamont and Pacheco network alternatives are compared.
- Pacheco and Altamont provide relatively similar accessibility between the Bay Area and Southern Central Valley (Fresno to Bakersfield). However, Altamont provides better accessibility between the Bay Area and Central Valley areas north of Merced due to more direct service and faster travel times. Figure 6 depicts this accessibility concept by showing areas that are within 90 minute door-to-door travel time of the "Golden Triangle" in San Jose. This figure illustrates that most of the East Bay, South Bay, Peninsula, and Santa Cruz County are within 90 minutes auto travel time of the Golden Triangle. The Pacheco HST alternative expands this accessibility into Northern San Benito County and locations immediately adjacent to the Merced and Fresno HST stations. The Altamont HST alternative expands this accessibility over a larger portion of the East Bay as well as the most populated portions of San Joaquin and Stanislaus Counties.

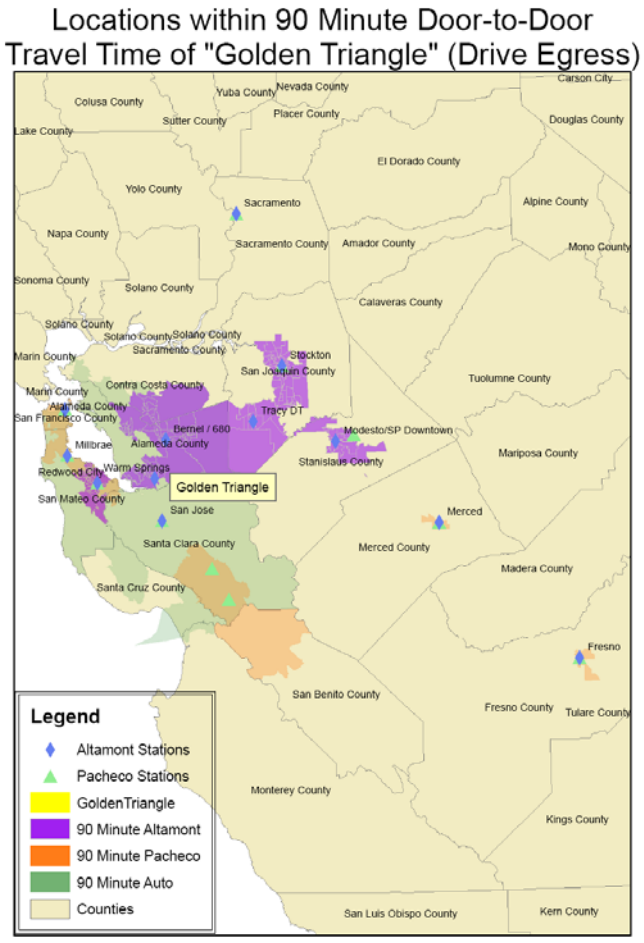

Figure 6. Accessibility Example to Bay Area Employment Centers

Since growth inducement is directly related to the number of stations, station locations, and accessibility gains, Altamont has a slightly higher growth inducing potential than Pacheco.

Regarding growth in the Los Banos area, the Authority took affirmative action to eliminate a potential Los Banos HST station as part of the Statewide Program EIR/EIS (see Chapter 8.6.2), stating:

> *The Authority also has determined that the Pacheco Pass alignment HST station at Los Banos (Western Merced County) should not be pursued in subsequent environmental reviews because of low intercity ridership projections for this site, limited connectivity and accessibility, and potential impacts to water resources and threatened and endangered species.*

The Final Bay Area to Central Valley EIS/EIR reaffirms this position, stating that "there will be no HST station between Gilroy and Merced." (Summary, pg. 21 and Chapter 8, pg. 47)

While the lack of a station does not prevent residents of Los Banos from using the HST, it would not be the most convenient choice (in terms of time and cost) for commute trips between Los Banos and the Bay Area. For example, a trip from Los Banos to the Golden Triangle on the HST would entail a door-to-door journey of two hours and 36 minutes, including a 66 minute long driving trip to access the nearest station at Gilroy. A similar trip could be made by private automobile in one hour and forty minutes. Even a trip to Downtown San Jose from Los Banos will take about 120 minutes door to door) via HST compared to about 105 minutes via auto. These substantial time differences, in addition to the expense of taking HST, mean the HST will have no effect on accessibility between the Bay Area's major job sites and the Los Banos area.

The analysis results support a conclusion that the growth associated with HST will not substantially change the overall magnitude, location or style of growth in the study area. Travel demand model results used for the growth inducement analysis indicate that the accessibility barriers that exist between Northern Central Valley housing and Bay Area jobs are largely overcome with the planned and programmed highway improvements included in the No Project alternative. This result means that the Northern Central Valley is an attractive housing location for Bay Area job seekers under all system alternatives, including the No Project alternative. Rather than encouraging additional sprawl, the HST will offer a market disincentive to low density design by creating station-area markets that can be developed according to the transit-oriented design principles outlined in Chapter 6 of the Program EIR/EIS.

1.9 HST Station Area Planning and Development

The growth analysis presented in Chapter 5 of the Program EIR/EIS does not identify any significant impacts from the indirect effects of growth inducement at the program level of analysis. Therefore, it is not necessary to analyze or adopt specific mitigation strategies for indirect effects of growth inducement for the HST stations. Notwithstanding this conclusion, the Authority recognizes that future development intensification near stations may contribute to maximizing system wide ridership, supporting locally-adopted land use plan changes, reducing impacts to farmlands and reducing the extent of potential new urbanization. To capture this potential, the Authority has articulated a number of general principles for HST Station Area Development presented in Chapter 6 of the Program EIR/EIS, and these principles will be at the forefront during project-level environmental review of selection of station sites and in implementing station development.

The primary ways in which the Authority can help ensure that the HST system becomes an instrument for encouraging maximizing implementation of station area development principles include:

- Select station locations that are multi-modal transportation hubs with a preference for traditional city centers.

- Adopt HST station area development policies and principles that require TOD, and promote value-capture at and around station areas as a condition for selecting a HST station site.
- Provide incentives for local governments where potential HST stations may be located to prepare and adopt Station Area Plans and to amend City and County General Plans that incorporate station area development principles in the vicinity of HST stations.

The Authority's selection of station locations and the timing of station development would consider adherence to the principles in the section. In pursuing its objective of providing a profitable and successful HST, the Authority will use its resources, both financial and otherwise, to encourage the local government authority with development jurisdiction at and around potential HST stations to take the following steps:

- In partnership with the Authority, develop a station area plan[9] for all land within a half mile of the HST pedestrian entrance that adheres to the station area development principles (described above).
- Use a community planning process to plan the street, pedestrian, bicycle environment, parks and open spaces, and other amenities.
- Incorporate the station area plan through amendment of the city or county general plan and zoning.
- Use community planning processes to develop regional plans and conform amendments to general plans, which would focus development in existing communities and would provide for long-term protection of farmland, habitat, and open space.
- Give priority to stations for which the city and/or county has adopted station area TOD plans and general plans that focus and prioritize development on the TOD areas rather than on auto-oriented outlying areas.

To help support transit oriented development, the Authority has committed to do the following:

- For HST stations in the Central Valley, the Authority will undertake a comprehensive economic study of the kinds of businesses that would uniquely benefit from being located near HST station areas, including a thoroughgoing estimate of the kinds and numbers of jobs that such businesses would create.
- The Authority will work with local governments, interested agencies and organizations, and provide funding and technical support, along with other partners, to build upon blueprint processes, to focus on supporting downtowns and increasing transit ridership, to increase development densities in the vicinity of HST station areas, and to assist in developing a vision with local partners as to how HST can encourage further in-fill development in Central Valley cities and support environmentally and economically sustainable future growth.

1.10 Next Steps

Provided the Authority certifies the Program EIR/EIS and makes findings for compliance with CEQA and the FRA issues a Record of Decision for compliance with NEPA, the Authority and FRA would focus future project analysis in the study region on alignment and station location options selected through this program environmental process. Site-specific location and design alternatives for the preferred alignment

9 Such a plan could take the form of a specific plan pursuant to California Government Code sections 65450–65457 or a Transit Village Development Plan pursuant to California Government Code sections 65460–65460.10, which specify the content for such a plan, or another form as determined appropriate by local government.

and station location options, including avoidance and minimization alternatives, would be fully investigated and considered during Tier-2, project-level environmental review.

Preliminary engineering and project-level environmental review would commence in the study region to the extent needed to assess site-specific issues and potential environmental impacts not already addressed in the Program EIR/EIS. Project-level environmental review would focus on a portion or portions of the proposed HST system and would provide further analysis of potential impacts and mitigation at an appropriate site-specific level of detail to obtain needed permits and to implement HST projects. Also, after completing the program environmental process, the Authority would begin working with local governments, transportation agencies, and private parties to identify right-of-way preservation needs and protective advance acquisition opportunities consistent with state and federal authority requirements

1.11 Bay Area to Central Valley Alignment Alternatives and Alignment Alternatives and Station Locations Considered and Rejected

The proposed CEQA Findings and Statement of Overriding Considerations (attachment to this report) provide a summary of the Bay Area to Central Valley Alignment Alternatives and Alignment Alternatives and Station Locations that were considered and are now rejected by virtue of the Authority Board's actions.

1.12 List of Attachments

- Proposed CEQA Findings and Statement of Overriding Considerations
- Proposed Mitigation Monitoring and Reporting Program
- Proposed Resolution No. 08-01

1.13 Contact

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